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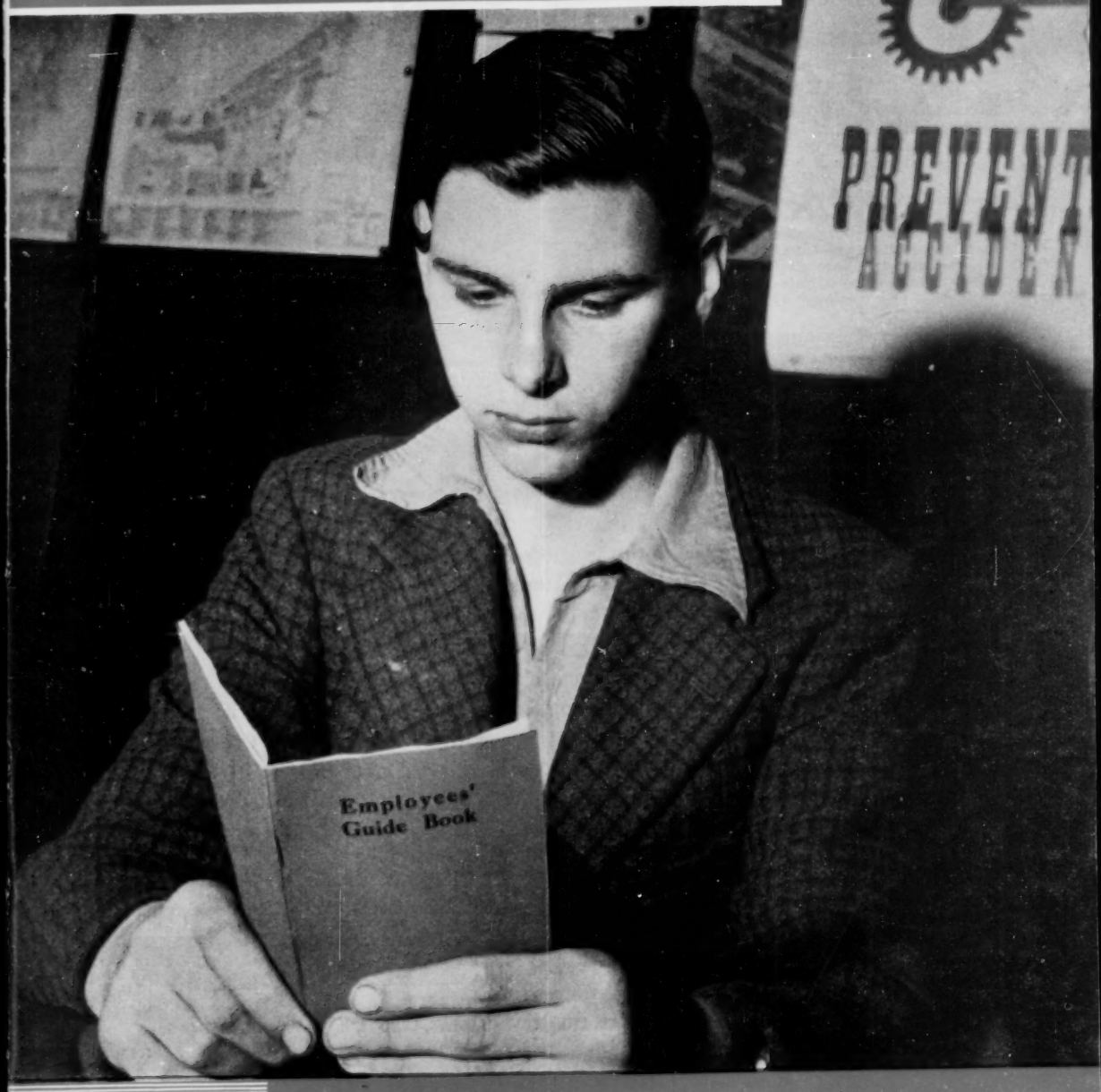

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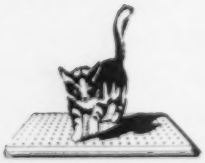

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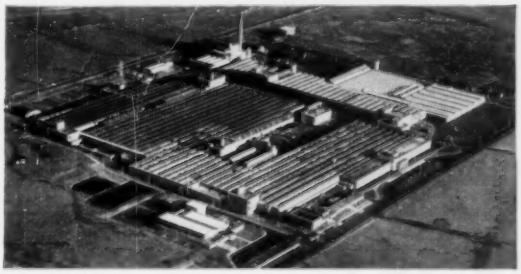

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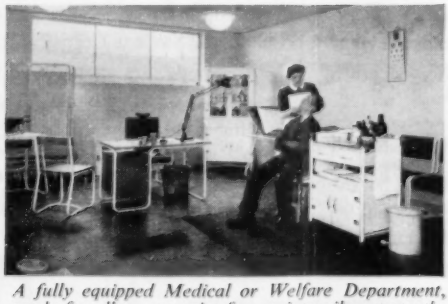

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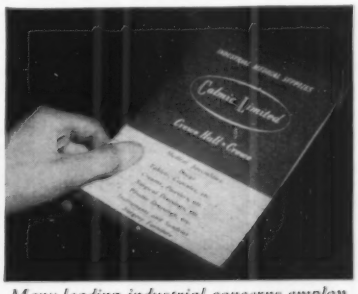

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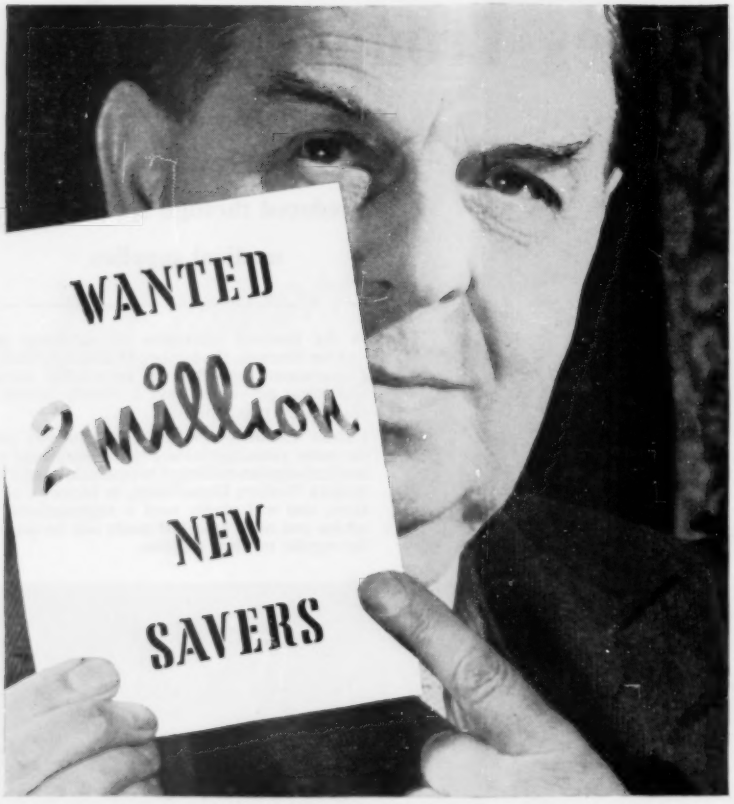

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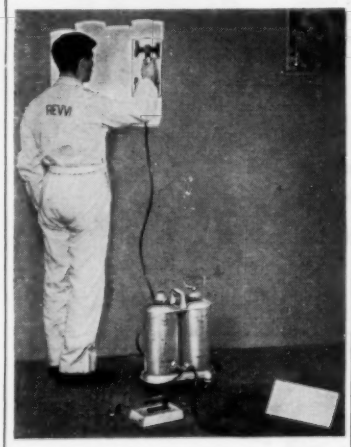

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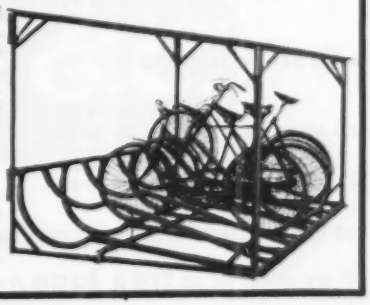

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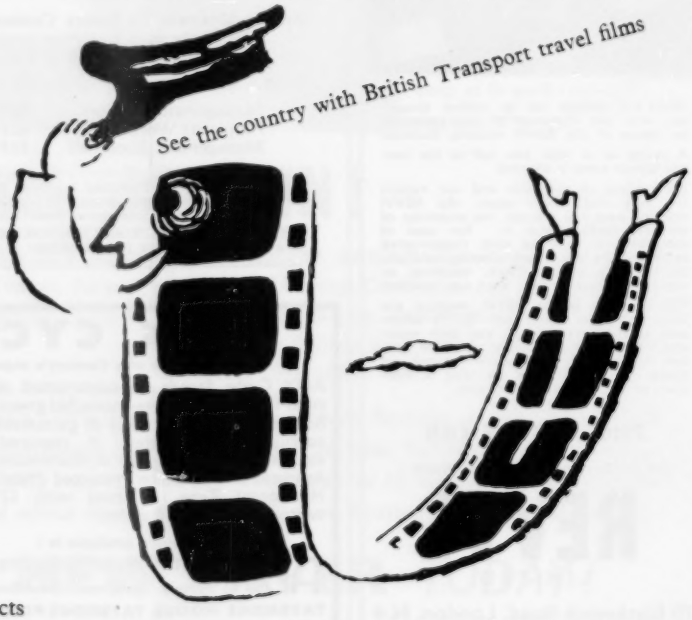

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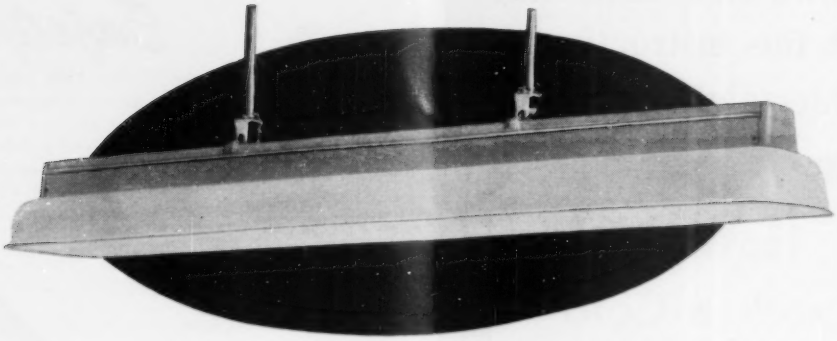

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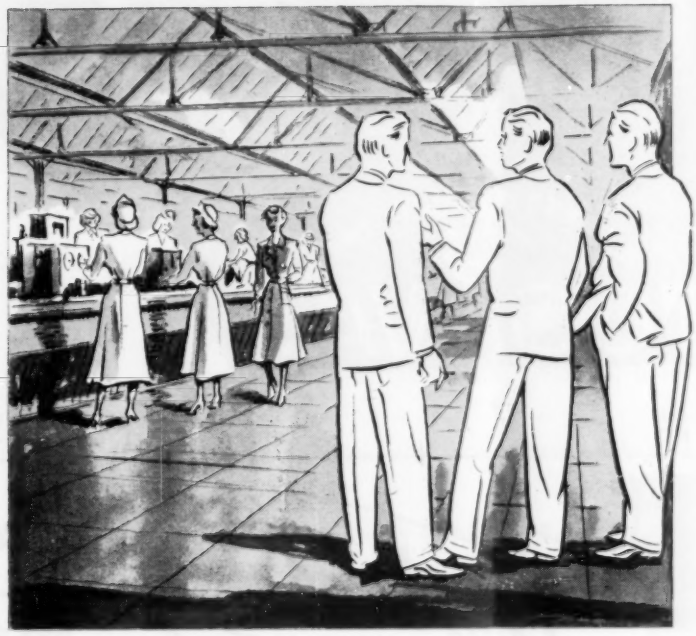

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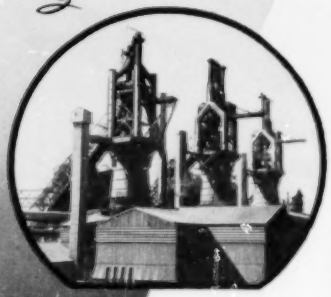

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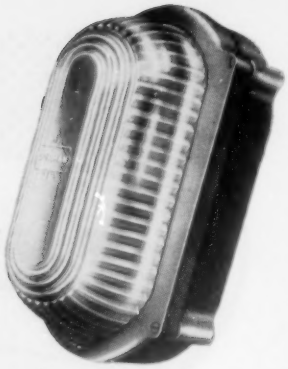

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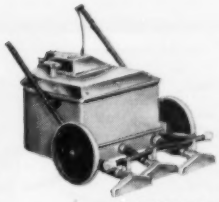

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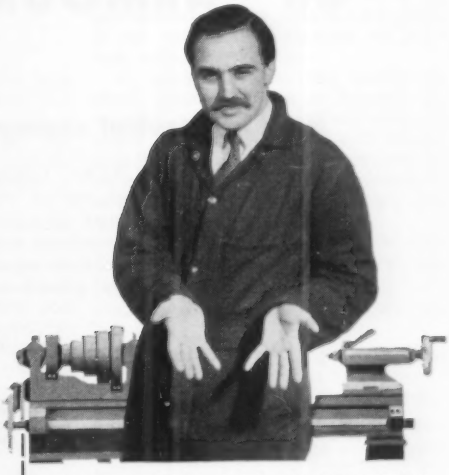

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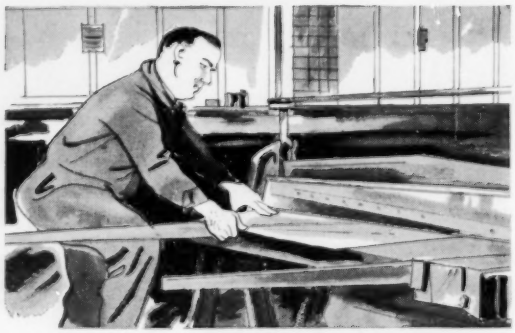

"ARMOURPLATE" glass gives a clear view of the job

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I.12

An intelligent use of safety propaganda costs little but pays big dividends. Shown here is part of a recent accident prevention campaign by **Daniel Doncaster & Sons Ltd.** of Sheffield. There is no reason why a small firm should not do likewise. (See page 412.)

Can Safety Be As Effective In The Small Firm As In The Large One? The answer is a positive "Yes", given that the steps described in this article are taken. These are, first, a definite lead and interest in safety on the part of management; second, that all ranks are trained to be safety conscious; third, that machines are kept in good condition and dangerous parts well guarded.

How the Small Firm Can Tackle the Safety Problem

By A. G. PALMER, B.Sc.(Eng.), A.M.I.Mech.E.
Works Regulation Officer, North Thames Gas Board, and President of The Institution of Safety Officers.

IN developing the principles of accident prevention, the large undertaking has the advantage as it is able to see the problem better than the small works, but the latter will have an advantage in putting these principles to work. It will, perhaps, be an advantage if we start off from the consideration of accident causes and see what that indicates.

Accident figures can be analysed in many ways, but really the most useful method for our purpose is to consider the failure that caused the accident under the following three headings:—

1. Failures of a physical nature.
2. Failures of instruction, training and supervision.
3. Failures on the part of the individual.

Each one of these failures requires some definition. By physical failures is meant failures of a positive type over which the employer has full control. The failure to guard a machine, the missing handrail, the wrong operating instructions, and the plant and equipment incapable of performing its full task.

By failures of instruction, training and supervision is meant the failure to give any or sufficient instructions when giving out work, or to see that the employee has had sufficient and correct training for his particular job and the failure of supervision to see that what instructions or training has been given is put into use properly. It is not enough to give an order only.

Lastly, the failures of the individual refer to that type of failure when a man lets go of a load and drops it on his toes, or when a man fails to put a load on a bench securely and it immediately falls off on to someone else's foot, or the man who with perfectly good tools hits his thumb with the hammer.

In carrying out such an analysis care must be taken to apply these considerations in the order referred to above or the whole lot will appear in the last category. In any case, it is not reasonable to say that an injured man shouldn't have put his finger into the nip of a pair of gears. No man will deliberately cause himself pain and suffering. We can all of us put our fingers very close to such gears if our attention is focused on that task only.

If, however, when not nearly so close, your attention is focused on another task, it is relatively easy to lose a finger. It is for this very reason that the pair of gear wheels require to be enclosed so that if one's attention does wander the consequences are not so serious.

Analyses carried out over the last three or four years tend to give the following results:—

1. Physical failures, 20 to 40 per cent.
2. Instruction, training and supervision failures, 5 to 15 per cent.
3. Personal failures, 40 to 70 per cent.

The exact proportions depend on various factors but must not be taken as a measure of accident prevention.

This indicates that the accidents over which the employer has control amount to rather less than half the total and correspondingly the accidents

over which the employee has control are the remaining half. In addition, the employee may be able to help in some of the accidents over which the employer has control. Thus, it immediately becomes clear that the employee and the employer must both play their part if accidents are going to be reduced.

It is obvious, then, that the employer must take the lead if accidents are to be prevented. Leadership in a works is essential. Without it the works will not function satisfactorily. With it everything goes well.

So with accident prevention. The management give a clear lead in the task, a lead which can be seen by all. The interest which they take will be followed by the interest of the supervisory staff and foremen, and this in turn will be followed by interest from the employee himself. It is truly said that accident prevention is everyone's job from the managing director down to the labourer, and unless everyone plays his part only partial success may be achieved.

Accident prevention must not hinder production but equally production must not cause accident. Accident prevention must be a partner to production and not just a "hanger on". And it is obvious from the earlier remarks that any policy of accident prevention must contain means to prevent the physical failures, must cater for the instruction and training of the workmen as well as of their supervision and must try to make each worker "safety conscious".

Each of these parts is now considered separately:—

Physical Failures

In general such failures are prevented by the following of good engineering principles, and the use of good quality equipment. Most of these requirements are already a duty by law, but those that are not can be met by a common-sense approach to the question.

Guards must be effective. They must amount to total enclosure whenever possible or its equivalent where work has to be done by the danger point. Care must be taken to ensure that any routine work which has to be done on the machine does not necessitate the removal of the guard, as, once removed, the guard seldom seems to get replaced. Thus, if all necessary work of a routine type including both operation and maintenance can be done without removing the guard it will soon be regarded as a part of the machine and will not be interfered with.

Here is an example of how easily accidents can happen. The picture below shows how easily such an accident can be avoided.

Take, for example, the old single cylinder oil engine with its unguarded crank and connecting rod. No one was happy about guarding the big end and crank. It has been displaced by the vertical oil engine in which the crank case is totally enclosed and danger no longer exists.

The guarding of dangerous parts not required for operational purposes is relatively straightforward. Where the danger exists at the point of operation a more difficult task exists. Here the fixed guard may not always be applicable. Many very clever mechanical devices have been developed to protect the worker. Their application requires special knowledge, and it is advisable to seek help in installing them, as the use of the wrong type may result in considerable interference with production and very little improvement in safety.

Machinery accidents only account for approximately 10 per cent of the accidents, but when they occur they are usually very serious, resulting frequently in death or the loss of a finger, hand or arm.

Falls account for more accidents than does machinery. Those during maintenance and construction are also likely to be serious and at times fatal. Their occurrence is usually due to lack of foresight on the part of some person, often because suitable equipment is not available when needed. Improvisation at this stage will often be the cause of an accident.

This section can scarcely be closed without reference to good housekeeping. Cleanliness and tidiness pay dividends. Even Yorkshire no longer believes that "where there is muck there's money". Or if they do believe in it then it is because they know that if they remove the "muck" they will find the money. Cleanliness and tidiness are almost always the hall-mark of efficiency, and they are certainly portents of safety consciousness.

Failures of Training and Supervision

This heading tends to frighten all employers except those who have paid special attention to it. Adequate instruction and training do not mean running a training school. They really

6 Major Causes Of Accidents

1. *Leaving machines unguarded or badly guarded.*
2. *Giving operators wrong or inadequate instructions on how to do a job.*
3. *Using faulty or worn-out equipment.*
4. *Dangerous practices by employees, either because they are not safety conscious or have not been properly trained.*
5. *Bad housekeeping. A dirty, untidy works breeds indifference to safety.*
6. *The failure of management to give a lead or take an interest in safety.*

mean seeing that any operator has the skill and knowledge necessary to do his job.

Such training can be carried out by putting the trainee with an experienced operator, but care must be taken to see that the operator is suitable. There is nothing more unsatisfactory than trying to correct a trainee who has been wrongly taught.

Finally, it is not enough to accept the trainee as fully trained at the end of his period with the experienced operator. Some member of the supervisory staff must see for himself the trainee can do the tasks expected of him, knows why they are to be done in that particular manner, and is aware of any special hazards which exist in the task. Only after this should the trainee be permitted to work on his own. This sounds onerous, but most of the tasks are relatively simple and a check does not take very long.

. . . another example of the right equipment saving time, money and injuries is this special safety can developed by **Glaxo Laboratories Ltd.** for carrying dangerous liquids.

As regards supervision, it must be stressed that it is not sufficient to tell an employee what he has to do. It is often necessary to lay out the job in a simple manner and to tell the employee how he should do it. Even this does not always suffice. It is necessary then to exert control on the employee to see that he does it in the way he was told to do it. This may be a tiresome job in the first case, but slowly and surely the employee begins to accept the fact that the way he has been told is the way he must do it, and then the supervision to be exerted becomes smaller and smaller, but must never stop.

Failures of the Individual

This is the most difficult group of failures to tackle. It really consists of making each employee "safety conscious", i.e., making him always have accident prevention in mind during the whole time that he is in the works.

It is true to say that the employee can do most in preventing these failures, but the employer can do much to help him. Thus the employer must always be demonstrating his own interest in accident prevention and the employee will follow. A safety committee is one way of creating and maintaining that interest, although they are not always possible on the small works. Various forms of propaganda will also help to keep the subject in mind so long as they are used properly.

How can the small works begin to put these thoughts into operation?

There are two possible ways of approach, and it will be worth while looking at each of them in some detail.

1. Using Existing Personnel

As has already been indicated, the first requisite is for everyone to play his part in accident prevention. This demands, first, a definite lead from the highest level in the works indicating clearly to employees what is expected of them and the interest they will be expected to take.

Secondly, some person in the works should be appointed to specialise in accident prevention techniques as part of his duties. (It should be emphasised "as part of his duties".)

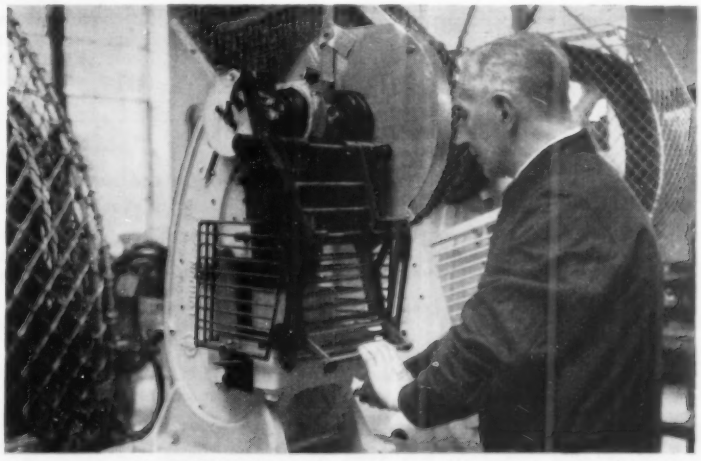
The appointment of this person should not relieve others of their duties, but should only provide them with someone to whom they can go for advice and who can keep them up to scratch by periodic inspections. Such inspections need not be special, but can be part of a visit for some other purpose.

Here it might be of interest to suggest that such a person should preferably not be connected with production directly, as then he may have a divided loyalty and, as production earns him his "bread and butter", he will tend to take a major interest in that if there is any conflict.

He should, however, be a person acceptable to employees and supervisors alike, have the run of the works and have some natural inclination towards mechanical devices. In addition, he should be given some opportunity of gaining the specialised knowledge required for his task.

2. By the Sharing of a Specialist

Some of the works in the organisation by whom I am employed are comparatively small, and are



The interlocked guard on this power press must be completely closed before the machine will operate.

frequently separated by 5, 10 or 20 miles. In such cases we have found it worth our while to employ our safety officer between several works. We have, of course, the benefit of a common payroll, but it does not seem difficult to imagine one safety officer servicing 3, 4, 5 or more firms where they are small and close together. His responsibilities may appear more difficult at first sight than they are in fact.

An Advisory Post

Unfortunately this method has scarcely been tried where several different firms are involved. There is no reason why it should not work in this case than in the case of several small plants belonging to the same employer. After all, the safety officer must be advisory and not executive. In both cases no matter what works he is on he must advise that works manager on accident prevention.

It has been indicated earlier that there is a need for acquiring the specialised knowledge and techniques of accident prevention and some consideration should be given to this point.

In the case of a part-time safety officer much useful help and guidance can be obtained from the factory department. The factory inspectors are always prepared to help anyone who is trying to put accident prevention into practice. In fact, they are far happier giving advice and help in this manner than they are in making prosecutions.

Secondly, that part-time safety officer, if he can be spared for a half-day once a month or two months, can get a lot of information and help if he joins one of the industrial safety groups. Here he will meet others like himself and will be able to talk over his problems both with them and with persons from large firms. He will be able to hear talks by specialists on many problems associated with accident prevention and what is more important will get to know who to ask when he has a special problem.

Thirdly, there is the Royal Society for the Prevention of Accidents. They circulate current information to all subscribers. They have pamphlets on many subjects of special interest available to all. They run an information bureau to help their members and have resources at their disposal which will ensure an answer to all problems. Also, they will undertake a survey of any factory and make recommendations on any subject from installation of accident prevention measures generally to the design of some special guard or tool.

Lastly, there are the training courses run by the Society in conjunction with the factory department on all aspects of industrial safety. Here the problem and the basic approach to it are discussed by specialist lecturers. The course takes just under a fortnight. No time is wasted and the pace of the course is set to get the maximum amount of information over in the shortest time.

A survey of this problem is never complete without attempting to assess the value of instituting industrial accident prevention and the following points are of interest:

1. The loss of one man in a works of 50 persons causes a greater disorganisation than does the absence of 10 persons in a works of 500 persons. At first sight this seems ridiculous, but it must be remembered that one man cannot be split up into parts. The whole of his services are lost to one small part of the works. Thus he may be one missing out of a gang of 3 maintenance workers. The output will fall unless the remaining two workers can increase their output by at least 50 per cent. In the larger works there will be more than one group affected and the groups will be larger. Thus there may be one man away in a group of 30 maintenance workers and the effect is correspondingly less.

2. The small works may go for a long period with little or no trouble merely to meet a fair amount over the next year or two. Insurance companies are not always sympathetic when two or three years in succession show records of several accidents, particularly if they are followed by common law claims which cost them a large amount of money. Under these conditions premiums may well rise.

3. Accidents in a firm, particularly in a small firm, bring about a worsening of industrial relations. In fact, the accident rate tends to show the success or otherwise of industrial relations in a factory. It is by no means unknown for several workers to leave a firm if a serious accident does occur with the resulting difficulties of labour replacement. I know of one job in which six out of a gang of 8 men left that firm after a fatal accident.

4. The law of the land requires you to take certain steps to protect your workers. If you fail to do this, criminal prosecutions may follow. The fines coupled with the cost of legal representation may well affect the balance sheet in the end. Such costs cannot be covered by insurance and must be met by the firm themselves. In addition, a common law claim may follow.

To the question "Can Safety be as Effective in a Small Firm as in a Large One?" the answer is a positive "yes". In the small firm every employee is easily known personally to the works manager or director, while the latter is known to every worker. The whole association is more intimate and compact, and thus it takes less time to create an interest in accident prevention. The lines of communications are shorter and there is less likelihood of interference or obstruction at any point. Many small firms can go as much as four or more years without a lost-time accident, but very few large firms can boast a similar record.

How the Small Firm Can Reduce Accidents

1 **By management taking the initiative and showing a real interest in accident prevention.**

2 **By appointing someone to specialise in safety *as part of his duties*.**

3 **By telling employees what is expected of them in safety matters.**

4 **By launching regular propaganda campaigns on accident prevention.**

5 **By sharing the services of a safety officer with other small firms in the neighbourhood.**

6 **By using the services of specialist safety organisations, such as RoSPA, on specific problems.**

7 **By installing modern, well-guarded machines wherever possible.**

The Changing Rôle of the Personnel Manager

By MARGARET BROWN
Department of Management Studies, London Polytechnic.

No longer is the physical welfare of employees the main concern of the personnel manager. Today the chief task ahead lies in welding the members of the firm together as a healthy, well-balanced society. How to do this at a time when jobs are being broken down into ever smaller and more meaningless units is a problem, says the writer, "of terrifying complexity". One priority, she suggests, is that management pays more attention to social skills.

A STUDENT of our industrial scene said to me recently: "The function of the personnel manager will disappear; his place will be taken by the training officer and the industrial consultant."

A personnel officer cannot be expected to agree with this, but there is much force in the ideas which lie behind these words.

The objectives of the early pioneers of the profession of personnel management were closely (perhaps more closely than they realised) allied to the expressed purposes of the trade unions—to improve the standard of living and the conditions of the industrial worker.

For the unions this meant concentrating primarily on wages; for the pioneer personnel manager (often a woman) it meant concentrating on the physical welfare of the individual employee. Canteens for hot midday meals; benefit schemes for the sick; first aid for the injured; a sympathetic ear for those in trouble; all these services and many more like them, were provided and sometimes fought for by the early welfare superintendent.

Experience has taught us, however, that the provision of high wages (sometimes in the form of incentive schemes) and welfare facilities do not, by themselves, improve relationships between management and workers. The N.I.I.P. survey on Joint Consultation, for example, gives instances where firms had excellent working conditions, high wages and profit-sharing schemes. Yet the workers were described by the management as "childish and difficult to please" or as "only interested in the pay packet at the end of the week."

A growing body of scientific evidence is forcing us to rediscover the ancient truth that leadership is the most important factor in building or destroying good human relationships. In two recent studies, for example, amongst insurance clerks and rail track workers groups doing the same work were studied to find out why some had low and others had high output and efficiency records. Both studies produced similar findings. **The quality and quantity of output were directly related to the methods of their supervision.**

These and other studies reaffirm that a modern industrial manager must obey the age-old laws of leadership if he is to maintain both a happy and satisfied working force and an efficient business.

A leader gains willing co-operation from his followers if they see that he is keeping them together as a group and helping them to reach an objective which they regard as important. The leader helps the group to clarify these objectives. In the course of the now famous experiments the girls in the relay assembly test room at the Hawthorne plant, for example, increased their output by 30 per cent without conscious effort, partly because they had become a closely-knit group with a sense of purpose. The leader is expected to initiate action and to look after his group, in the manner of a Prime Minister who says: "I am the servant of this House."

Where does the personnel manager fit into all this? As industrial managers begin to see their work in these more positive human terms, so the personnel manager sees some parts of his rôle changing and others taking on a new emphasis. His major contribution lies in helping top management to keep those employed in the firm together as a healthy and well-balanced society. Thus he has to help management to clarify the aims of their organisation so that all who work there can recognise them as worth while common aims.

Often, however, the aims of manage-

An Industrial Dilemma !

This article highlights the main challenge facing industry today.

On the one hand planners and work study experts are breaking jobs down into ever smaller and more specialised units. "Automation" is a new term in the management glossary.

On the other hand the personnel manager is charged with developing a sense of worth and importance among the men and women on the shop floor.

Can these two ideas be reconciled ? If so, how should the personnel manager set about it ?

This is a dilemma which industry will have to resolve sooner or later. For that reason we ask readers for their views and suggestions now. What you have to say may well help others faced with the same problem.

ment who must make changes to promote technical efficiency appear to be in conflict with the aims of their staff, who more often wish to maintain the stability of their social structure, and so fear change. The personnel manager must be able to advise management on the methods to be adopted so that technical changes can take place within the framework of the social structure of the factory and not, as so often happens, in a way that will tear the whole fabric of that society apart.

To perform this task satisfactorily, the personnel manager has to know a great deal about human motives and behaviour, about the composition and influence of groups and about the nature of leadership. He must now be skilled in collecting information about people and about the way they feel, and still more skilled in assessing human situations. He must also have skill and courage in presenting his findings to management.

One personnel officer, writing about his job, puts it this way. He says he makes a daily tour of the factory with a notebook in his hand.

"Making a note of points that cannot be answered at once and returning to my office, I reflect that these tours are essential to ascertain the 'feel' of the place. One is expected in this job to be a kind of human barometer and I am frequently asked by other members of management where the next trouble will occur."

The personnel department of the giant *Sears Roebuck* company in America are even more systematic about this part of their work. They have fully trained research assistants whose job it is to make an attitude survey in any department at the request of the departmental manager. They claim that the survey gives the manager an accurate picture of the "feeling tone" of his department. He can decide whether or not to take action as a result of the survey as he thinks fit. Thus the manager is the co-ordinator of the social system of which he is the head and the personnel officer is his industrial consultant.

The work of the personnel officer cannot, however, stop here. Members of an organisation will not make management's objectives their own because they are told to do so; nor will they readily see change as a natural growth of their social structure. They will only do this if they see the organisation as *their* organisation and if they see their daily work as a common enterprise in which all are taking part.

An enterprise becomes really and truly our own if we have put some thought and feeling into it; if we have made decisions about it; if we have become proud of it; if we have developed a sense of responsibility towards it. **It is the personnel manager's job to advise his management on the practical steps that can be taken to develop this sense of belonging and this sense of responsibility in the staff.**

The problem is an enormous one of terrifying complexity. The production planners and the work study experts are breaking jobs down into ever smaller and more meaningless units so that the worker can often feel no pride in the job itself.

The satisfaction of some of his needs can only come from working in intimate association with a group; yet technical changes constantly threaten that group's permanency. One thing is certain, however—a key to the development of this sense of responsibility lies in the hands of the supervisors. They are in charge of the primary working groups. They have the greatest opportunity to foster or repress the interest and willing participation of their staff. Their problem is to develop individual personality within the group.

5 Essentials of Personnel Work

1. **EXPLAINING** *clearly the aims of management to the workpeople.*
2. **ADVISING** *management on how to build up a sense of "belonging" and of responsibility among employees.*
3. **ASSESSING** *human situations and putting the facts squarely to the management.*
4. **TRAINING** *supervisors in social skills.*
5. **PLACING** *new employees so that they fit in with existing groups.*

Social Skills

People who have never taken responsibility must be taught to do so. This realisation, I think, is one explanation of the great and sustained interest that is being shown by industry, in supervisory training.

The personnel officer often talks of his work of "educating management." I suggest that this work will need to be even more specific in the future. He must be equipped and willing to train supervisors in the social skills which they need to become successful leaders of industrial man. The technical specialist, in particular, is in need of this kind of help. The personnel officer must see that these middle managers are made into real links between top management and the staff. He must see that they are treated in the same way as he is training them to treat others.

When we see that the primary aim of the personnel manager is to help management preserve social equilibrium, while pursuing the ends of production, the rest of his duties fall into an understandable pattern. No industrial organisation can be in balance if the system of remuneration is not *seen to be* fair. A sense of participation must be fostered on a formal collective basis as well as informally within working groups.

The New Employee

Thus regular formal joint consultation between management and different sections of employees must take place. New employees must be selected and placed so that they not only are capable of doing their work but fit into their group as well. A well integrated system of promotion and training must show the gifted employee that his need to grow and develop is catered for. Welfare and employee services give tangible proof that management are genuinely interested in their staff.

These are all aspects which the personnel manager needs to develop as part of the wider pattern of social relationships. Unless, however, they are integrated in this way they are useless tools. Wage incentive schemes, for example, which are introduced to "boost morale" prove disappointing, and we see too often the impotence of joint consultative committees which have been superimposed on an autocratic management structure. Such committees go their own, seemingly mysterious, way unaffected by, and having no effect upon, the daily life of the firm.

There are signs that personnel managers are once more feeling the need to ask themselves the question: "Where do we go from here?" Will they go on devising bigger and better administrative techniques, or will they tackle this enormous problem of developing and strengthening the social health of the industries they serve ?

How Air-Conditioning Helps Both Workpeople and Product

By A. G. AREND

"Satisfactory standards of temperature and ventilation are two of the basic requirements for good working conditions", says the latest report of H.M. Chief Inspector of Factories. Here is an account of how efficient air-conditioning plant can ensure both. And besides providing for human comfort, such plant often means a better product.

COMPARATIVELY few items have been developed so much in recent years as a means of improving personnel efficiency and comfort as has air-conditioning in its various ramifications.

And in some cases this is due not only to the demands of comfort and hygiene but to the properties of the material to be worked.

In either of these instances, the total air is treated in a single apparatus. This may handle return air as well as fresh air, provided the air circulates in a closed circuit. By improving the quality of the product, the cost of air-conditioning installations is frequently paid for in a few years. Some indication of the extent to which general efficiency has been improved may be gathered from the fact that specially constructed apparatus has recently been evolved to determine the residual dust content in cleaned air. (This costly equipment measures the dust in the air stream by the amount of light which reaches a phototube. The current delivered by the latter gives a continuous meter indication of the dust content when this is electronically amplified. The results are tabulated on a calibration curve, compared with a standard to check the meter readings, and ensure that the air-conditioning plant is giving the most reliable and consistent cleansing.)

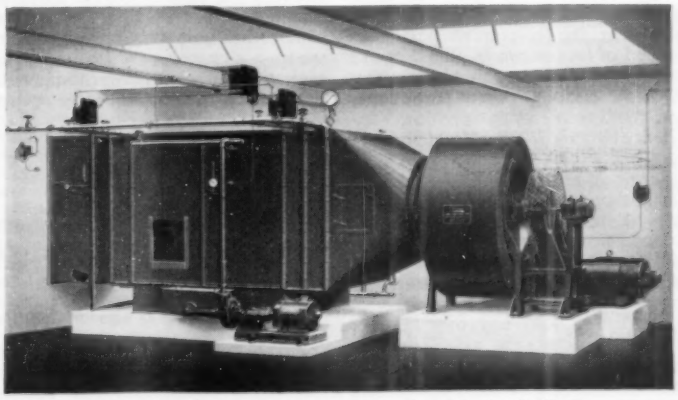
Without entering too deeply into technical explanations, the following brief account indicates the general nature of the procedure adopted.

Fresh air as well as return air is drawn in by a fan, cleaned, and brought to the requisite temperature and humidity, and forced into the ventilation system. Regulation of the air-conditioning apparatus is an important item. Hand regulation is advisable where widely changing conditions exist, such as in restaurants, where it offers the possibility of producing different air conditions to suit the changing number of visitors. Automatic regulation of temperature and humidity is preferable, however, where constant air conditions are desirable, as in most industrial plants.

Humidity regulation is usually affected by dew-point control, hence by means of a thermostat, and the regulators act on the heating and water valves, either direct, or via a pneumatic, hydraulic, electric, or mechanical controller. This regulation equipment is provided with a humidostat, a thermostat, and a psychrometer.

In some air-treatment plants, the air humidifier is supplied either with tap water or circulating water, which can be brought to the desired temperature by means of a steam-heated cylinder. The air to be treated is drawn in either from outdoors through one pipe, or as a mixture of fresh air and return air, which latter is added through a second pipe.

In passing through the humidifier, and ultimately the air heater, the required relative humidity of 75 per cent, and the temperature of 72°F. are obtained. Regulation of the requisite temperature and humidity in the work room is effected by a number of diaphragm valves inserted in the heating pipe, and in the water pipe leading to the humidifier. Thermostats in turn control these valves in the air ducts within the closest limits. In other plants, the main units comprise a fan for sucking in fresh air through a filter, an air cooler, one or two air heaters, and a system of atomizer nozzles. During summer, when the humidity of the air is relatively high,



Air-conditioning plant for a large modern block of offices.

Air-conditioning plant in a spinning room. Note the overhead ducting running down the gangway. (*Pictures by courtesy of* ***Matthews & Yates Ltd.,*** *Swinton.*)

the air sucked in by the fan and cleaned in the filter is forced through the cooler. This removes surplus moisture, and the air is then raised to the desired temperature in an air-heater unit. During the cold season when the air has but a relatively low moisture content, it is first heated and then suitably humidified.

Of the many applications which have recently been developed, training schools equipped with air-conditioning plant claim a large fall in absenteeism since installation was made. In restaurants and tearooms, use is today made of both air-conditioning and germicidal lamps. In one restaurant during the lunch period, the average number of organisms per cubic foot of air totalled 27, the maximum varied from 44 to 88 at peak periods, and when the restaurant had been emptied of its customers, this dropped to 15. The owner acknowledged that his daily earnings were particularly high compared with previous experience (when the outside temperature exceeded a certain figure) after installation of an air-conditioning plant.

In the operating room of a modern hospital, the air entry openings are located below the ceilings, with the air exit openings above the floor. A selectively variable temperature of from 73° to 77° F. and a humidity of not under 45 and not over 55 per cent are continuously maintained in this room, and in a smaller room connected to the same air-conditioning apparatus. In the ear, throat, and nose infirmary of this hospital, a total of 12 different air-conditioning plants is needed to meet the variety of curative requirements. In the attic, 10 of these plants are accommodated, while the plants for air-conditioning the operating rooms, and a special ward, are located in the basement. It is possible to adjust the temperature and the humidity to the condition best suited for the patients in the connected rooms with each of these plants, and the condition so set is thereafter maintained constant automatically.

In industry, the removal of dust and lint in the manufacture of mattresses by special air-conditioning plant has given an enormous impetus to output. Formerly, absenteeism was a serious obstacle to production, and could be almost wholly attributed to the operatives breathing in dust-laden air, and rendering them unfit for work.

Again, the substantial losses of output in coal mines due to pneumoconiosis are reduced in modern mines where air-conditioning plant is installed. This has likewise been introduced in modern metal mines.

Air-conditioning has also helped greatly in industrial activities such as the spraying of lacquers, finishes, and enamels, fine grinding operations and woodworking, etc., modern methods localizing the particle-laden air, so that conditioning of the outside air is rendered superfluous. With paper mills, like installations have in some cases brought about increases in output of the order of 10 per cent. This is because proper working of the paper requires very definite air conditions, and paper which is neither too dry nor too moist provides the maximum strength characteristics.

In spinning mills, maximum strength and elasticity of the threads is attained with certain air conditions, which simultaneously prevent electrostatic charges, which through excitation of the fibres hamper the spinning process. With the proper installation, reduction of waste, and better quality result. The presence of definite air conditions in weaving mills, likewise not only improves the goods, but is claimed to increase output by as much as 15 per cent. During rubber manufacturing processes, air temperature and humidity are very important, as it is necessary to suppress the liberation of static electricity and attendant danger of explosion.

In automatic telephone central stations, variable air conditions can adversely affect the complex and highly sensitive apparatus used. On the one hand, the causes partly reside in the contraction and expansion of metal parts, and partly in the formation of rust on moving elements from excessive humidity, while conversely, the drying of lubricants is caused by insufficient humidity. These difficulties are completely forestalled by installing air conditioning plants, which maintain the same interior atmospheric conditions in summer and winter. In the manufacture of chocolates, air conditioning prevents moisture deposits, and premature softening of the goods value as a consequence. In the manufacture of photographic plates and films, air conditioning is an imperative feature, and to a lesser extent in the leather and ceramic industries.

One of the latest additions to industries requiring air-conditioning, is in the manufacture of iron and steel articles involving high-precision machining operations. This is because the truth of inspection gauges is detrimentally affected by temperature fluctuations, and a perfectly uniform temperature is demanded in inspection rooms.

Lastly, as a further means of improving personnel efficiency, air conditioning plant is at present being considered for perfumery work, where constant contact with highly fragrant material, in place of fresh air, retards output.

6 Benefits of Air-Conditioning

1 *Sickness and absenteeism are reduced.*

2 *Output is increased and, in some industries, quality improved.*

3 *Waste is reduced.*

4 *Checking of high precision products is helped.*

5 *Stagnant 'pockets' on the shop floor are removed.*

6 *Clean air improves the morale and maintains the health of the workforce.*

LIGHTING BRITAIN'S INDUSTRIES

Industrial lighting is constantly improving notes the latest report of H.M. Chief Inspector of Factories. This **Ediswan** lighting installation in the new Southampton office block of **AC-Delco** Division of **General Motors** gives an indication the way things are going.

Veterans Clamour For Night Work

SITUATED in an area of full employment, a toffee factory (*E. Sharp and Sons, Ltd.*) of Maidstone, unable to recruit any more women workers, recruited instead a night shift of men, varying in age from the late fifties to the late sixties. The recruits included retired civil servants, army officers and others with no previous industrial experience. These men set to work with a will at the toffee-wrapping machines, and were earning about £12 for a week of five nights. Disclosing these details in his annual report for 1953, H.M. Chief Inspector of Factories (Sir George Barnett) tells how the firm were so pleased with the scheme that they decided to extend it to other departments, and already had a waiting list of older men more than sufficient for their needs. Applications came from all parts of England and from Northern Ireland, and some of the present members of the shift travelled as much as 30 miles to work.

Logic Is Not Enough

SOME pointers on how to get the co-operation of workers in introducing technical changes were given at the recent D.S.I.R. conference on "Research and Industrial Productivity" by Lewis T. Wright, general secretary of the Amalgamated Weavers' Association.

First, he suggested that "a carefully prepared lecture filled with 'unassailable' argument as a rule gets nowhere, unless the arguments are clearly for the immediate well-being of the group".

Second, "the group must be shown the whole picture, and if it is discovered that part of the picture has been hidden, however trivial, the group's reactions can be disastrous".

Third, "vagueness, the superior approach of 'I know better than you', and the glossing over of factual information all tend to irritate the group itself, even though perhaps through only one or two members".

Fourth, "if technical jargon be used, communication will fail because workers will not understand it and will not ask what it means. Not understanding, they will reject it."

The second of these points is easy to state, but extremely difficult to apply. It also tends to conflict with the fourth point, for if technical jargon is not understood by the workers, then giving the whole picture is virtually impossible without making the explanation long and boring—which would defeat the object.

What the workers generally want is a simple picture, provided that it discloses the real aims and expected results of a change, and hides nothing which affects their interests. (**Business,** 1/55.)

Mark Drain Covers

THE location of drain covers is difficult enough in the normal conditions associated with a fire, when the crews have to contend with darkness, smoke, perhaps a quantity of dirty water lying on the floor, and the handicap of working in premises with which they are not familiar; but all too often drain covers are concealed and made inaccessible by linoleum, fixtures and goods.

Much of the difficulty and consequent damage would be avoided if the positions of drain covers were indicated by signs, and both the London and Glasgow salvage corps have, therefore, introduced schemes whereby the staffs of the corps will fix indicator plates, at the request of occupiers, in basements and (where necessary) ground floors of premises in their respective areas. It is strongly recommended that managements avail themselves of this facility. (**F. P. A. Journal,** 1/55.)

Boss Confusion

STRIKING support to a point made by Mr. D. Basnett during the Communications Brains Trust session featured in this journal last month is contained in the recently published "Analysis of Conditions of Employment and Industrial Relations in the Port of Manchester", carried out by the Department of Social Science of Liverpool University.

Mr. Basnett stressed that the employee wanted to know three things: his conditions of work, his wages and who is his boss.

The Liverpool research team asked 300 men to answer the simple question, "By whom are you employed?" Half thought they were employed by the Ship Canal Company (as they are), one-third said the Dock Labour Board, and the remainder could not make up their minds. Two thought they were employed by the Transport and General Workers' Union.

Commented *The Manchester Guardian* of January 6 :

"A clear understanding of who works for whom and precisely what duties each owes to each is the foundation of good labour relations, and this is just what the dock labour scheme does not provide."

Laundry Solution

BY installing a laundry and drying room at his Leeds factory, Mr. John Collier, chairman of the firm bearing his name (formerly *Fifty Shilling Tailors*), claims to have brought about a significant reduction in absenteeism among married women employees. Their domestic laundering is now done for them while they work by a full-time staff at a nominal charge of 1s. for 9 lb.

A Year's 'Grace'

THE management of the *John Lewis Partnership* have rejected the recommendation of the central council—two-thirds of which is elected by a secret ballot of the employees—on the type of dress to be worn by male staff. The council recently decided that male staff should wear grey suits irrespective of rank. At present, black jackets and striped trousers can be worn by all the staff.

The management had proposed that only managers should continue to dress in this manner, and that other employees should wear grey suits. This proposal caused much resentment, the outcome of which was the council's decision to urge the management against discrimination.

As a concession to the lower-ranking staff, the management have now agreed to allow them to continue wearing their traditional black coats and striped trousers for another year, after which they must adopt grey suits, black shoes, white shirts (with or without a not too conspicuous black or grey stripe), white collar and black or grey tie, suitable for formal wear.

Pre-Fab Factory

THE Joint Parliamentary Secretary to the Ministry of Transport and Civil Aviation (Mr. John Profumo) recently laid the first brick of the new factory of *Winstons Electronics Ltd.*, at Shepperton, Middlesex. The new factory will represent the first demonstration of the Cranleigh system of prefabricated permanent factory building. The shell, complete for occupation and at a substantially lower cost than that obtained by traditional methods, is being erected by *F. and D. Hewett Ltd.* Frames can be of any span to the nearest inch and are not fixed by modules.

Call-Up Precursor

MR. A. G. B. OWEN, chairman and joint managing director of the *Rubery Owen* group, has planned the new scheme at the Darlaston plant by which all youths nearing call up—whether apprentices or not—will attend a two-day course during which they will attend lectures given by Army, Navy and Air Force officers and visit military depots to study at first hand the facilities available for training in the Forces to-day. It is planned to stress that Forces' life offers opportunities for carrying on with training and to break down the fallacy that conscription means two wasted years.

If the Darlaston experiment proves successful, Mr. Owen intends to introduce similar courses into many other Owen organisation factories throughout the country.

Mutual Aid

ONE of the most successful pioneer schemes for workers so handicapped that they are house-bound has been inaugurated by the *Dunlop Rubber Company Ltd.* at their Erdington, Birmingham, factory. Eighty-five severely disabled house-bound workers are employed on a sub-contract direct from the works at the same rates of pay as employees in the factory.

In spite of their disability these house-bound workers (most of whom did not previously work for *Dunlop* so that there is no sense of obligation to old employees involved) are earning up to £7 10s. a week. From the company's point of view this pioneer scheme is thoroughly satisfactory and economic because valuable floor space which would otherwise be occupied by these workers is put to other use while at the same time the contracted work is efficiently executed.

Business Forks

THE formation of two new operating companies is announced by *T. Wall and Sons, Ltd.*, the ice cream and meat products manufacturers. The company's two sides are now separated under individual boards and will be known as *T. Wall and Sons (Ice Cream) Ltd.*, and *T. Wall and Sons (Meat Products) Ltd.*

HOUSE MAGAZINE DIGEST . . .

Other Firms' News And Views

Purer Air

FOLLOWING representations made on behalf of residents by the local council, the *Steel Company of Wales, Ltd.*, are undertaking a costly research programme designed to reduce the amount of airborne dust and grit carried by the prevailing south-west wind from coke ovens, blast and open hearth furnaces, and sinter plant, at their Margam works. Wherever there is an emission of dust and grit which can be prevented, appropriate steps have already been taken or research is going on to find the best solution. A good deal of money has been spent by the company and technicians are visiting other plants at home and abroad in search of new solutions. (**Ingot News**, 12/54.)

No Weaklings Need Apply

The operation of a fork lift truck hour after hour, day after day, demands a high degree of sheer physical endurance. Every prospective operator ought to be given a thorough physical examination before being accepted for the job. Attention should be paid to hearing, and an operator who cannot readily hear directions and possible warnings under normal working conditions should be rejected. A thorough test should be given on all types of vision, including straightforward visual acuity, side vision, depth perception and colour vision. (**Handling**—*I.T.D. Ltd.*, 12/54.)

Training Pioneers

The electrical industry has, by reason of its rapid expansion, developed high standards of education and training for its personnel. In this field your company can justly claim to have been pioneers. Our educational policy is being fully maintained literally from the factory floor to senior executive positions. It is a significant indication of the extent of the application of our educational and training policy that in the last twelve months nearly 10 per cent of all our employees in the United Kingdom have been under full-time training or have taken special courses during the year. (**Circuit**, 12/54.)

Five Pillars Of Wisdom

It is generally considered that a good supervisor must possess five essential "skills". These are: (1) Knowledge of Work—technical skill and knowledge and familiarity with machines, materials, processes and operations; (2) Knowledge of Responsibilities—familiarity with the firm's organisation, policies, regulations and agreements; (3) Skill in Instructing—the ability to instruct workers and give clear directions; (4) Skill in Leading—the ability to promote harmonious working relationships; and (5) Skill in Improving Methods—the ability to make the best use of staff, equipment and materials. (**Clarks Magazine**, 12/54.)

Automatic Progress

Complementary with the extension and modernisation scheme at our Kilmarnock factory, we have been introducing a self-progressing batch-control system of production control. . . . The system has been steadily developed since it was first applied in 1949, and now the department responsible controls about 70 per cent of our work.

Most of the problems have been overcome satisfactorily and the system, together with the new equipment, work study and new methods of production and of handling materials, have resulted in a substantially increased output. . . .

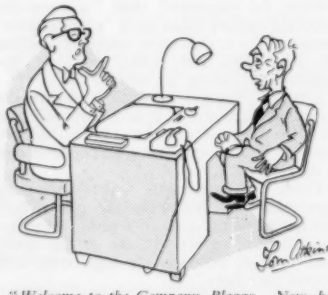
Previously, supervisors themselves had to devote a great deal of their time to chasing materials and deciding priorities.

Under the present system these disadvantages are eliminated. (**Glenfield Gazette**, 12/54.)

First Aiders

Out of a total of about 330 staff, 285 have been trained in basic general and basic first aid. The staff appreciate that much of this training can be very useful in everyday life and that a great deal of useful knowledge can be gained from these courses. Some of the more important items which were taught, especially with regard to our own industry, were artificial respiration in case of electric shock; control of haemorrhage; treatment of fractures and burns; and how to tackle fires. (**SeaBoard**, 12/54.)

The Social Animal



"Welcome to the Company, Bloggs. Now, how about joining the B.H.S.A., Dr. Barnardo's, the Sick Club, 'Ludun', the National Savings Group, the Manor House Hospital scheme, our 'Save the Children' fund, and, of course, the Recreation Club. We can arrange to deduct weekly contributions from your wage packet in the same manner as we take care of National Insurance, Life Assurance, P.A.Y.E., the Pension Fund, Staff Purchase repayments . . . and, can we count on you for a pint of blood?"

(With acknowledgement to **Electrolux News**, 12/54.)

How Vauxhall Runs its Civil Defence Corps

By GERALD WARD

"An outstanding example of what can be done when management plays its full part in encouraging civil defence." *Vauxhall Motors Ltd.* recently earned this tribute from the Director General of Civil Defence. Here now is an account of how the firm built up and maintains interest in its civil defence. Personal contact has played a large part in the success of the venture.

General Sir Sidney Kirkman, U.K. Director General of Civil Defence, chats with Mr. Bert Snell, a member of the **Vauxhall** Civil Defence Services, during his recent visit to the Luton factory.

IN February, 1952, with a "call to arms" notice in the pay packets of their 12,000 employees (now 14,000), *Vauxhall Motors, Ltd.*, first launched its post-war civil defence unit. The initial recruiting campaign was rewarded with the enrolment of 175 recruits. Thanks to the fine crusading spirit of the sponsors, allied to an imaginative propaganda campaign, this number has since grown to 273, over 90 per cent of the peace-time estimate of 300; and membership covers men and women (the latter numbering 12) from all ranks and sections of the firm, including senior executives.

Vauxhall's have two factories—the principal one being situated in Luton with a subsidiary at Dunstable. Between them they occupy an area of 285 acres, 68 acres of which have already been built upon with much of the remainder earmarked for extension works. The company also have several large warehouses and packing depots in the Luton and Dunstable areas.

Since the factories are so large, much difficulty was at first met with in familiarising members of the civil defence unit with the complex layout. This problem, however, has been largely overcome by the production of a scale contour model of the Luton works, with each building identified alphabetically. This has proved an invaluable means of teaching rescue workers how to find their way around the works easily and speedily—a prime necessity in the event of a devastating air attack—and is also used as a tactical table.

The civil defence control officer, Mr. R. Wellings, is also the company's chief security officer; before going to Luton in 1947, he was the Chief Constable of Windsor. Mr. Wellings is aided by a deputy control officer and a full-time C.D. administrative assistant. The works fire officer, with 88 men on his roll (33 of them full-time), works in close co-ordination with Mr. Wellings who, in an emergency, could also call on the works police, at present totalling 110 men. Contact is also maintained with outside civil defence organisations, municipal and industrial, throughout the country and, through *General Motors*, with American civil defence publications as well.

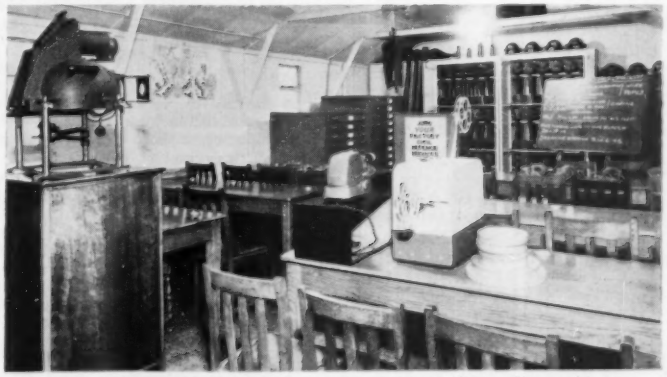
Lecture Facilities

The Luton unit is served by two sizeable lecture and training rooms, a well-equipped store and an underground control centre (the latter being a survival from the last war). The Dunstable unit, numbering 25 members, out of a payroll of some 300 employees, uses a committee room in the office block for lecture purposes. Many models, charts and other gadgets for use in training at the works and locally have been made by instructors and volunteers.

A rescue training ground is also envisaged on a one-acre waste site adjoining the Luton factory extension. Here, it is proposed to erect a structure typifying a bombed building which will be used for practical instruction in industrial rescue work.

Classes are held daily at such times as will enable all members to attend when individually convenient. General instruction is given by a panel of 20 instructors, while 13 others specialise

(*Continued on page* 424)



The No. 2 lecture room showing respirator store, charts, filing cabinets, epidiascope, 16 mm. projector and slide and film projector.

The Chief Inspector takes a look around

Where Management can Raise Output and Improve Conditions

Ways in which management can reduce accidents, raise output and improve working conditions are given in the latest report of the Chief Inspector of Factories. The Inspector ranges over a wide field, from safety to seating, cleanliness to canteens. Here is the Editor's review of a Government report with a difference, a report that pulls no punches but is forward looking in ideas.

The report noted that canteen hygiene had improved but that food handling methods were often open to criticism. Here is a white P.V.C. apron made from non-toxic materials designed specially to meet with statutory requirements for food handling and manufacture.

"SHORT breaks in working spells for refreshment lessen fatigue and provide necessary stimulant, while the worker who gets up at the last moment to go breakfastless to work has some opportunity for a snack and a hot drink."

Thus the Chief Inspector of Factories, making one of his general observations on industrial health in his annual report for 1953.

It is human touches such as this which makes the report one of the most interesting documents published by H.M.S.O. in recent months. The factory inspectorate, one feels, is one group of civil servants who are by no means out of touch. And despite the time-lag of 12 months, the report has great topicality for many of the trends it mentions are still going on, while many of the faults it uncovers are still with us.

Accidents

Industrial safety, for example, perhaps the most important part of the report, comes under heavy fire. Stress is laid on the increase in the number of industrial accidents during the year (181,637 as against 177,510 in 1952), in particular on the increase of accidents to young people. During 1953 there were 8,625 accidents to boys and 3,346 accidents to girls, an increase of 20 to boys and 188 to girls. The Chief Inspector states that this is a real and pressing problem and reiterates a statement he made in the 1952 report:

> "Allowing young persons to be injured or killed is a form of extravagance in which British industry simply cannot afford to indulge; the supply of juvenile labour which will be available during the next decade can be forecast accurately; it is well known that it will be inadequate and that no wastage can be made good. Young persons in fact constitute industry's most precious raw material, and employers would do well to ask themselves if they are watching over it with all the care that it needs."

Then, with that balance which stamps the report throughout, other examples are given showing that the blame can by no means always be laid on management's doorstep. Many accidents were caused by young people skylarking. Again:—

> "Much might be done by older workers, at little or no inconvenience to themselves, to set a good example and establish a good tradition. Boys are inveterate hero-worshippers, even in a factory, and have a great regard for 'Bill So-and-So—he's a smashing mechanic, the foreman gives him all the jobs no one else can do', and they will copy Bill's methods—working clothes, goggles and all. If Bill were given a tactful hint by his foreman, or maybe trade union official, he would probably do something about it—it might not occur to him otherwise."

The Older Worker

Accidents to workers aged 60 and over numbered 12,846 (12,334 of them to men) and the report makes a special plea for older people in industry who need a little privilege:—

> "It would be helpful if they were allowed to leave the works a few minutes before the bulk of the workers in the large factories, so as to give them a better chance of getting to public transport without having to withstand the rough-and-tumble which is prevalent when numbers of persons leave some large factories. Other important points are to have their work place where much stair-climbing is not required and to keep shops especially tidy."

Health

The same plea that management should exercise a basic psychology in all dealings with its workpeople runs through other sections of the report. On the question of health, for instance, it is stressed that "if the individual feels that he is a unit, a clock number or a cog in the machine, not even the best provisions for his physical health will compensate for his loss of recognition as a human being".

At the same time the report welcomes the enormous improvement in the standards of amenities since 1939 when washing facilities were first made compulsory in all factories. **This and the growth of canteens and other feeding arrangements had undoubtedly made a major contribution to the health of the industrial population.** The use of protective clothing was also spreading rapidly while

more and more shelters were being provided for men working in the open.

Medical Facilities

Medical facilities in factories ranged from the sublime to the ridiculous, from lavishly equipped centres in large plants to "small tin boxes covered with rust and dirt, containing the grimy remnants of their once statutory contents" in small ones where accidents were happily rare and no one had the time or interest for first aid.

Cleanliness

This was not a matter which seemed to appeal strongly to the majority of either employers or workpeople, and those who had formed bad habits saw little reason to change them. **Few complaints were received about dirty conditions, but unfortunately not because the grounds for complaints did not exist.** Process workers were less willing now than before the war to take part in general cleaning, while at the same time the cost of employing full-time cleaners or professional decorators was often too much for some small firms.

On the other hand, mechanical handling, mechanisation, vacuum cleaning equipment and the like had improved conditions enormously in some plants, while slum clearance schemes were resulting in the demolition of dilapidated factories and improved standards nearly always followed in the new premises.

Heating and Ventilation

The report describes various ways in which firms are attending to this most important factor in industrial health and stresses that present-day fuel costs are tending to make us mend our ways in the matter of wasting fuel.

Lighting and Colour

Improvements in lighting and colour are also noted, though in many cases windows could be cleaned more often. One case is cited where an inspector was discussing the provision of safe access over a fragile roof for the purpose of cleaning roof lights. The reply was that the problem had not arisen because the roof lights had never been cleaned.

The high standard of new artificial lighting installations was, however, being maintained in a very satisfactory manner, while the use of colour schemes had become commonplace with the new plastic emulsion paints proving particularly suitable for industrial use. Says the report:—

"The steel works and engineering factories in Wales are breaking out into colour and generating stations are blossoming in schemes of cream, rust and eau-de-nil. Even the black-country trades are beginning very slowly to turn their backs on traditional whitewash and to experiment cautiously with a few blues and greens."

Recent Trends in British Industry

1. **Safety.** *Room for improvement, especially where young people are employed.*
2. **Health.** *Washing and feeding arrangements have been vastly improved. Medical facilities in large firms often first-class, in small firms sometimes primitive.*
3. **Heating and Ventilation.** *More attention being paid to this matter. Less fuel being wasted.*
4. **Lighting and Colour.** *Artificial lighting generally of a very high standard. More firms adopting colour schemes.*
5. **Working Hours.** *Double day shift working on the increase.*
6. **Welfare.** *Seating and canteens much improved.*
7. **General Factory Cleanliness.** *Leaves much to be desired. Often workpeople and management are quite indifferent to this problem.*

Shift Working

The general shortage of labour had led to further increases in the amount of part-time work by women. Double day shift working was common in the textile trades, where it was increasing, though labour shortages often made it difficult to staff two shifts effectively. In London travel problems connected with the early start militated against its use. On the whole the system was viewed with apprehension by workers who had no experience of it but, once established, it was usually accepted.

Seating

The section on welfare confines itself to seating and canteens, but is none the less important for that. All concerned with works comfort and efficiency should read the chapter on seating which begins with the general observation that advice on this matter is received more critically and acted upon more slowly than that given concerning many other requirements of the Factories Acts.

There is, however, a growing acceptance of the idea that good seating facilities are part of the equipment for efficient production.

Canteen

The report noted that the major problem which has affected canteens is the increased costs of foodstuffs, which many firms tried to control by introducing menus with a varied price range. The majority of new canteens are well-planned and equipped, although in some kitchens planning could be improved, particularly as regards food storage. But the modern kitchen with its tiles, vitreous enamels, stainless steels and its labour-saving equipment bears little relation to the type put up ten years ago.

Improved standards of canteen hygiene were also noted, not to mention the improved appearance of canteen staffs with their laundered uniforms. However, methods of handling and preparing food were often open to criticism.

Worker And Production Figures Keep Rising

ACCORDING to the latest figures issued by the Ministry of Labour and National Service, unemployment declined by 7,000 between November 15 and December 6. At 256,000 it represented 1.2 per cent of the estimated total number of employees, compared with 1.5 in December, 1953, and was the lowest December figure since the war.

The number of people in civil employment at the end of November was 22,685,000—an increase of 50,000 on the previous month. The total working population, too, increased substantially, reaching 23,775,000. Short-time working in the manufacturing industries, numbering 30,000, was almost the same as in November, 1953, whilst overtime workers showed an increase over the previous year of 180,000, rising to 1,690,000.

The index number of industrial production (1948=100) was estimated provisionally at 135 for October, 1954, compared with 131 for the month of September, 1954, and for October, 1953. The November, 1954, figure is expected to be 136-7.

Help Your Workpeople to Say What They Mean

Helping workers express their ideas clearly is one of the main facets of a supervisor's job, says Discussion Leader. It is a vital social skill which management itself should not only learn but pass on. And a first-class example of how clear expression pays dividends is contained in the letter which begins this article.

How Vagueness Leads to Discord

MR. J. TIMBRELL, M.I.B.F., foundry manager, of 26, Old Road, Stanningley, Leeds, has found that people who are not used to expressing their ideas on paper need help in formulating them. He says:—

"On the subject of suggestions, as a development man for several years, I found that a perspective draughtsman was most useful for setting out the ideas and suggestions in drawings that could be understood.

"Suggestions were carefully illustrated and put on the department's works board for criticism or for further suggestions to improve the idea.

"Having once made an elaborate rig up for a job, when this was put into use, the idea stimulated an immediate improvement in a more simplified way.

"Moreover, few operators and shop workers who often visualise simple time-saving developments can express themselves in a readable drawing. Access to a capable illustrator encourages the thinker to express himself if he is sure he will receive the credit.

"A notice saying an illustrator is available to all employees will usually bring good response."

I think Mr. Timbrell has suggested a very interesting train of thought, not only in relation to suggestion schemes but in relation to many other aspects of factory life. Many of us are handicapped because, although we have good ideas, we cannot express these ideas effectively, in either the spoken or written word. We feel annoyed and frustrated when we cannot influence other people to see our point of view.

Some firms have recognised that such people as works councillors in particular need to learn to express themselves clearly and fluently. I know of one firm where works councillors are trained for their job of representing the work people's point of view; another small firm started a system of formal consultation by first holding courses to show all the workers how they could become effective representatives of their fellows.

In another firm it is understood that the personnel manager is available to help any workers' representative or group of representatives to formulate their ideas, suggestions or complaints before an item is put on to the formal council agendas. Some trade unions are also running courses for their shop stewards. The ability to express oneself clearly is one of the social skills which is equally essential both for managers and supervisors and for workers' representatives and shop stewards.

Many managers and supervisors lack this skill. A story is told of a supervisor who said to a worker: "Here is a piece of steel 6 ft. long—I want you to cut a foot off it please." So the worker carefully measured a foot and a small piece over and sawed it off the rod. He then filed down this piece until it measured exactly one foot and took it to the supervisor. The supervisor became very cross and said: "But it was the piece 5 ft long which I wanted, and now you've spoilt it!"

Could have been put better!

Readers are invited to send in examples of how badly expressed orders or badly written statements have led to confusion or error. Discussion Leader also invites your views on how supervisors can improve methods of "communicating" with the groups under them. As usual a guinea will be paid for each letter published.

OVER-SPECIALISATION

Redressing The Balance

PERHAPS our educational system makes some of us over-specialised. One brilliant mathematical scholar said to me quite recently—"You know I always wish they had made me learn more English at school. Now I find it a slow and difficult process to put my thoughts down on paper. We had English lessons, of course, but the master never seemed to be there, or if he was he was correcting someone else's homework or something like that—he wasn't really interested in us—he knew we were specialising in mathematics."

As technical subjects become more complex it is tempting for schools and later universities to channel a student into a narrow groove until he becomes "a creature that moves in predestinate grooves, in fact not a bus but a tram". Is it industry's job to redress this balance do you think?

The reverse aspect of this skill of communicating our thoughts and feelings to other people is the skill of being able to interpret aright what other people are saying. For instance what a person says about other people may tell the skilled interpreter more about the personality of the speaker than about the personality of the people who are being described. Thus statements such as "they aren't really my type" or "they're a poor crowd of people at our end of the shop", or "it was a discontented ship right from the moment we sailed", may be telling us mainly that the person speaking is himself a poor mixer.

A supervisor who can detect these feelings in what people are saying is well on the road to a deeper understanding of people. The way we believe and pass on rumours is a concrete example of what I mean. We often believe what we want to believe. We pass on to someone else a rumour, not because it is true but because we are giving expression to our feelings by doing so.

So we cannot go up to our supervisor and say "I do not like you" but we can safely pass on (and embroider) a piece of malicious gossip about him. We all hear rumours; can you send me some you have heard and suggest possible interpretations of them?

DISCUSSION LEADER

Shares On H.P.

INTEREST-FREE loans are being offered by *Colvilles, Ltd.*, the Scottish iron and steel combine, to 17,000 of their employees to enable them to become shareholders in the firm. A statement issued by the company recently announced that the offer was the result of the denationalisation of the group. Ten million ordinary shares of £1 each, fully paid, will be offered to the public at 26s. a share.

Under the scheme, employees of 21 years and over who wish to apply for blocks of 50, 100, 150 or 200 shares will receive a loan covering the whole cost of the shares, and repayment will be made by deduction from salary or wages at the rate of 3d. a share each week for 104 weeks.

Personality Tests

TWO years ago only about a third of U.S. corporations used personality testing; since then the proportion has been climbing—of the 63 corporations checked by *Fortune* 60 per cent are using personality tests . . . all the signs point to a further increase.

In perhaps 25 per cent of the country's corporations the tests are used not merely to screen out those who shouldn't get into the organisation but to check up on people who are already in it. And the people being checked on, furthermore, are not workers so much as management itself . . .

What would happen if the presidents of our largest corporations took the same tests that future executives are being judged by? What would happen if the tests were applied to a group of scientists, not just average scientists, but a group of the most productive ones in the world? Would their scores jibe with their achievements?

By actually giving tests to 60 exceptional persons, we found out. Conclusion: if the tests were rigorously applied across the board today, half the most dynamic men in business would be out walking the streets for a job. **(Fortune.)**

A Helping Hand

"BUILDING foremen do not as a rule favour placing their older men in separate gangs. This may be good practice in some industries; it is not in building."

This is one of the points stressed in the third report on *Age In The Building Industry* by F. Le Gros Clark, a work sponsored by the Nuffield Foundation.

He goes on to say that, if a gang are temperamentally adjusted, the younger will help the old and that older men often set going a steady "rhythm of work."

Where modern bonus incentives are adopted there may be difficulty in some operations with the older and slower men. Thus it is better, if possible, to set an old craftsman or labourer to work on his own, especially in finishing off, clearing up and making good.

ILLS OF INDUSTRY

Soap Wrappers' Jig And Ulcers

FOLLOWING the announcement by a psychologist of a new occupational complaint—soap wrappers' jig—which causes the girls who wrap soap tablets to continue their rhythmic movements long after they have finished work, comes a letter to the *British Medical Journal* telling of an affliction known as paper-folders' fingers from which Civil Service clerks and other office workers who have to fold documents in their working hours are reputed to suffer.

The ailment is said to resemble window cleaners' finger, and affects the bones of the index finger, which become bent. The doctor reporting the disease does not specify the number of Civil Service clerks who have been discovered literally working themselves to the bone in this way, but it is presumably appreciable.

Occupational complaints to-day are very much in the fashion and range from the gastric ulcers to which Hollywood tycoons are said to be martyrs, through the outmoded athletes' feet and housemaids' knees to new obscure functional disorders such as televiewers' neck and motorscooter migraine.

Now that the Civil Service is acquiring paper-folders' fingers, it only remains for the recipients of the documents to appeal to the National Health Service for a prophylactic against the ravages of the disease known as in-tray inertia. ("**The Director,**" December, 1954.)

Malingering

MALINGERING on a "stupendous" scale is leading to a steady deterioration in the moral fibre of the industrial classes, asserted Dr. A. C. Crawford, divisional medical officer for the Warrington area, in his recent address to the North-West Area Council of the British Federation of Psychologists at Chester. The Civil Service, local government and the nationalised industries made up the pay of sick employees on the production of doctors' certificates. Dr. Crawford felt that in many instances certificates were not given with the same degree of care as should be the case.

Poisoning

REFERRING to industrial poisoning and diseases, the report of H.M. Chief Inspector of Factories for 1953 draws attention to a slight decrease of cases of gassing in comparison with 1952. It recommends that every accident of this nature should be made the occasion for reviewing the rescue, resuscitation and first aid services, and all the circumstances of the occurrence.

In all there were 529 cases of industrial poisoning or disease, including 70 deaths. In the previous year the number of cases amounted to only 470, seven of them fatal. The highest number of cases was caused by epitheliomatous ulceration (skin cancer), which disease accounted for 256 cases, including 68 fatalities.

The Older Worker

ANOTHER report will be presented in 1955 by the National Advisory Committee on the Employment of Older Men and Women. Since the publication of the first report its recommendations have been widely accepted by employers, trade unions and the general public. Many restrictions on the employment of older workers have already been removed.

A CAREER BEGINS

Signing his agreement with **E. K. Cole, Ltd.**, is one of 12 boys who have now begun apprenticeships with the firm after satisfactorily completing a probationary period. The apprenticeships include radio engineering, tool making and draughtsmanship.

In Brief

AFTER the annual holidays last year, Sheffield steel makers, *Daniel Doncaster & Sons Ltd.*, launched a "Spare A Minute For Safety" campaign. Every worker was asked to think about safety for one minute of each day for a week, booklets of safety hints were issued, prizes awarded for the best safety suggestions, and the campaign backed up by works posters and lunch-time talks. By the end of 1954 accident figures had shown a marked decline, particularly for the period immediately following the holidays.

* * *

New industrial accident prevention groups have been formed at Slough and Northampton under the auspices of RoSPA. Mr. H. W. Randall (*I.C.I.* Paint Division) was elected chairman of the Slough group while at Northampton an organising committee was elected for the purpose of drawing up a constitution.

* * *

Sir Miles Thomas, chairman of the British Overseas Airways Corporation, is to open the third National Factory Exhibition at Earls Court, London, on March 28. The Exhibition organisers state that this will be the most comprehensive display of factory equipment ever to be put on show in the United Kingdom.

* * *

Short refresher courses for workshop personnel, such as foremen, are being held by the Production Engineering Research Association. Comprising discussions and practical demonstrations to encourage the adoption of the most up-to-date methods, the courses can be arranged to suit the requirements of individual firms.

* * *

The Incorporated Brewers' Guild have introduced a training scheme to provide junior brewers who may qualify by further experience for ultimate appointments as assistant or head brewers. Boys aged 16 and over serve a two-year pupilage and must apply for election as student members of the Guild.

* * *

Gold wrist watches or clocks were presented recently for long service to 112 employees of the *John Collier* organisation at the firm's Leeds, Middlesbrough, South Shields and West Hartlepool factories. The awards were made in respect of a total of 2,500 years' service with the company (formerly *Fifty Shilling Tailors*).

* * *

The average weekly earnings of adult male workers in manufacturing and certain other industries in October, 1951, and April, 1954, respectively, were £8 6s. and £9 17s. 8d., said the Financial Secretary to the Treasury (Mr. H. Brooke) in a written reply to a Parliamentary question.

* * *

The index number of retail prices (1947=100) was 145 for November, 1954, compared with 144 in the previous month.

NEW YEAR HONOURS FOR INDUSTRY

BARONS

Sir William Fraser, chairman, Anglo-Iranian Oil Company Ltd.

KNIGHTS BACHELOR

David Arnold Scott Cairns, Q.C., chairman, Monopolies and Restrictive Practices Commission.

Ivor Richard Cox, for services as managing director, Metropolitan-Vickers Electrical Co. Ltd.

Robert A. Maclean, for services to industry in Scotland.

Wilfred J. Neden, Chief Industrial Commissioner, Ministry of Labour and National Service.

Henry Spurrier, managing director, Leyland Motors Ltd.

K.B.E.

Sir (Arthur) Wilfrid Garrett, chairman, Industrial Injuries Advisory Council.

C.B.E.

Ald. John Newton Frears, chairman and managing director, Frears and Blacks Ltd., Leicester.

Maj. Francis R. B. Whitehouse, chairman and managing director, Chad Valley Co. Ltd., Birmingham.

O.B.E.

Joseph Blewitt, Midland regional secretary, Transport and General Workers' Union (Birmingham).

Peter L. Gould, member, Welsh Board for Industry.

M.B.E.

Edwin J. Franklin, works manager, Remploy Factory, Longton, Staffordshire.

Thomas W. Greaves, safety officer, Dunlop Rubber Co. Ltd., Birmingham.

B.E.M.

Herbert Adams, turner, Joseph Lucas Ltd., Birmingham.

William T. Hine, letterpress machine-minder, University Press, Oxford.

Samuel Hinton, ripper, Mid-Cannock Colliery.

Charles W. Jacobs, chargehand (mechanic), Radar Research Establishment, Ministry of Supply, Worcester.

Miss Emma Mellor, bookbinder and pattern card maker, Brough, Nicholson and Hall Ltd., Leek.

Sam Moore, head screens mechanic, Ellestown Colliery (Leicester).

Joseph Riley, foreman of Assembly Dept., British Timken Ltd., Birmingham.

George Sparks, chief electrical inspector, Wm. McGeoch and Co. Ltd., Birmingham.

Francis A. Williams, foreman, George Goodman Ltd., Birmingham.

QUEEN'S FIRE SERVICE MEDAL

Sidney H. Todd, Divisional Officer, Birmingham Fire Brigade.

APPOINTMENTS

SIR CHARLES BARTLETT, chairman of *Vauxhall Motors, Ltd.*, retired in December under the company's Pension Plan, having reached the age of 65. Sir Charles thus relinquished both chairmanship and membership of the board of directors. The new chief is **MR. WALTER E. HILL. MR. A. W. LASKEY** is now acting as managing director, an appointment held by Sir Charles until mid-1953.

SIR ROBERT LETCH, general manager of the British Transport Docks Division, has been appointed chairman of the Docks Management Board set up recently by the British Transport Commission.

MR. RONALD OGDEN, secretary to the British Association for Commercial and Industrial Education, has been appointed an adviser to the Pakistan Government on apprentice training. **SIR RONALD NESBITT-HAWES,** chief, Education Administration, *English Electric Co., Ltd.*, will act as hon. secretary for the time being.

MR. T. C. ROCHFORD formerly in the personnel department of *Guest, Keen and Nettlefolds, Ltd.*, of Smethwick, has been appointed personnel manager of *William Hunt and Sons, Ltd.*, Oldbury.

MR. A. G. STEWART, chairman and general managing director of *Stewarts and Lloyds, Ltd.*, has been appointed president of the British Iron and Steel Federation, in succession to **MR. G. H. LATHAM,** chairman and managing director of *Whitehead Iron and Steel Co., Ltd.* **SIR ERNEST LEVER,** chairman and chief executive of *Richard Thomas and Baldwins, Ltd.* and the *Steel Company of Wales*, is the new president elect of the Federation.

Top Managers To Meet

SENIOR executives from more than 200 Midland firms are meeting at Droitwich on February 4-5 to take part in a conference organised by the British Institute of Management on planning in the field of higher management, where principles are unaffected by the scale on which they are applied. The conference has the support of the Federation of British Industries and the National Union of Manufacturers.

According to the latest *Statistical Bulletin* to be issued by the British Iron and Steel Federation, the total number employed in the iron and steel industry as at November 6, 1954, was 429,747. This figure included 160,937 process workers, 88,546 general and maintenance workers, 39,689 administrative, technical and clerical workers and 140,575 iron foundry workers.

Simple Measures that Reduce Canteen Accidents

By WINIFRED McCULLOUGH,
Senior Canteens Adviser, Industrial Welfare Society

This article reveals the most prolific sources of accidents in canteens and discusses how these can be prevented. The necessary measures are easy to apply and cost little, it being chiefly a matter of common sense, training in the use of equipment and keeping all utensils in good working order.

CANTEEN kitchens employ electricity, gas, steam (sometimes at pressure) and highly inflammable materials—such as fat and sugar.

Semi-skilled—sometimes unskilled, elderly and physically handicapped female workers handle sharp implements, moving machinery and heavy trollies. Often without any formal training newcomers lift and move heavy pans full of boiling liquids and awkwardly shaped hot oven pans without adequate hand holds.

Added to these hazards, kitchen workers are subject at certain times of the day to rush conditions. They do not wear protective gloves or shoes. They work on floors made slippery by the almost unavoidable spillage of water and grease.

The extraordinary thing is that kitchen accidents are not more numerous and more serious than they are.

In a small survey of canteen accidents just taken by the Industrial Welfare Society, nine firms and one college refectory give full analyses of kitchen mishaps over periods of four, six and twelve months.

These figures are taken from the seven firms which provided records over twelve months.

1. *Burns and Scalds*

Under this heading are shown by far the largest percentage of kitchen accidents: 31.8 per cent of the total.

Burns and scalds are variously listed as caused by "handling or snatching at hot objects", "escaping steam", "overflow of hot water", "careless opening of steam ovens" and "ignorance of water temperature."

2. *Cuts and Abrasions*

In the case of knives and other tools, these accounted for 12.9 per cent of all accidents. Cuts and abrasions on glass, china, tin, etc., accounted for 8.27 per cent of mishaps. Broken glass and china in washing up water and mishaps when opening tins were responsible for most of these. Chipped cups and plates, baking tins, etc., with sharp edges, and the cheaper type of utensils with doubled over tin handles.

If fitted with a leather sole, this type of safety shoe is ideal for women canteen workers. Smart in appearance yet at the same time fitted with a steel toe-cap which can withstand falling weights of up to 40 ft./lb. Makers' name and address upon request from the Editor.

3 & 4. *Falls and Bumps*

Taken together give 21.1 per cent of mishaps. The two main causes of all these mishaps are bad shoes with insecure, loose or run over heels and slippery floors.

5. *Falling Objects*

1.03 per cent mishaps.

6. *Splinters*

1.2 per cent accidents. Old soft wood tables and draining boards are the most usual cause of this type of accident, now far fewer than formerly owing to greater use of stainless steel and plastic surfaces.

7. *Accidents from Machines*

Only 0.52 per cent of total mishaps, but of course likely to be of a serious type. Most kitchen machines now adequately guarded.

8. *Major Accidents*

28 only or 2.4 per cent of total. (Curiously enough, no accidents from electric shock were noted.)

Preventive Measures

1. *Burns and Scalds*

Examine all taps of urns, boilers, etc., and guard against "splashes" of hot water. Make sure all vessels used for hot foods and beverages are well within lifting power of female staff.

Provide (and enforce use of) thick insulating oven cloths. One small one for each hand is safer than a large one grasped at each end. Mark taps that discharge boiling water with "Danger" notices, or paint them red, and take similar precautions for steam oven doors. Make good all valves in bain maries and hotplates where escaping steam may cause scalds.

2. *Cuts and Abrasions*

The dull knife, the inefficient tin opener, the blunt saw, cause far more accidents than the well kept, good quality tool for the job. Periodic inspection of all kitchen tools and provision for sharpening all knives regularly will do much to avoid mishap. Good storage for knives helps too. Many cuts are caused by

6 Canteen Safety Hints

1. *Make sure all vessels and urns for hot foods can be lifted easily by the female staff.*
2. *See that all valves controlling steam are in good working order.*
3. *Keep all knives sharp and store away safely when not in use.*
4. *Drain floors thoroughly and sprinkle with a little abrasive powder.*
5. *Teach new staff how to use each machine and use it safely.*
6. *Keep the kitchen well lit and ventilated.*

an unsuspected knife-edge in a drawer full of tools.

3 & 4. *Bumps and Falls*

A kitchen floor is bound to be wet and greasy at times. Worn down heels, loose shoes, rubber soles, high heels, will turn the slight skid into a serious fall. Kitchen staff should wear solid leather soles (or rope soles), firm heels and shoes that fit well over the instep for safe foothold and protection from hot or sharp falling objects.

Floors should be well drained for quick drying of spills, while a little abrasive powder left in the cleaning water helps to improve foothold.

Accidents caused by falling objects and splinters need no comment.

7. *Accidents from Machinery*

These could be avoided to a great extent if use of each machine was *taught* to new entrants and *ability to use it safely* required of all concerned.

All these mishaps have individual remedies, but four remedies applicable to all kitchen accidents are these:

(*a*) *Good lighting*—Edged tools and hot objects need clear, shadow-free vision.

(*b*) *Good ventilation*—The hot worker is the one whose hands shake and slip.

(*c*) *Good atmosphere*—The calm, unflurried kitchen free from quarrels and "nerves" is also very free from accidents.

(*d*) *Training* of all staff and periodic examination of all plant.

8. *Major Accidents*

Fortunately only few of these occur and in the great majority of cases their cause is the subject of serious study and immediate remedy.

But minor accidents are of more importance than at first appears. True the sufferer may not stay away from work. But while the hand is bandaged or the knee is stiff (a matter perhaps of weeks) there is great loss of effectiveness.

In all but the slight accident, too, there is a hidden loss of time. The injured person goes off to surgery for dressing and perhaps a rest but all others in the vicinity are upset and "put off" by the occurrence.

The writer once checked from observation that one fairly deep finger cut lost one hour of the victim's time, and at least ten minutes from each of eleven onlookers. A high price to pay for an unsuitable knife that turned in a vegetable cook's hand.

CANTEEN ADVICE BUREAU

By L. BANHAM, A.M.H.C.I., A.R.San.I.

Tea Costs

Like many firms throughout the country, we are experiencing in our canteen an appreciable loss since de-rationing of tea due to the operatives bringing their own packet tea and obtaining from the canteen hot water.

We hardly like to refuse this but nevertheless the cost of fuel supply and wages of attendants is considerable for no return. We feel that this is a fairly general question and would welcome your suggestions particularly in relation to instituting a charge. (N.M.E., Worcester).

YOU are quite correct in assuming that this particular problem is not peculiar to your own canteen. Since the de-rationing of tea there has been a steadily growing tendency for workers to bring their own packet tea to the factory and to ask for boiling water to make their own brew. Certainly the practice does result in a drop in the canteen takings and for that reason alone is bound to cause distress to the canteen management.

It is difficult to see, however, how a charge could be made to cover the fuel and labour costs in providing boiling water. Surely the provision of boiling water for this purpose should be regarded as a part of welfare and to deny such an amenity would probably provoke dissatisfaction amongst a section of the staff.

I feel that this is a problem which ought to be faced squarely. Try first to find out why the employee prefers to make his or her own brew, and above all do encourage a frank answer. It may well be that the cup of tea served in the canteen is not up to standard for one or more of a number of reasons in which case the answers will point to the remedy. It may be that the price charged is too high, and if this is generally felt to be the case then the question of costing must be re-examined.

Alternatively, some firms approach the problem from the angle that, if the worker wants to make his own brew, then have packet tea on sale in the canteen. Other firms go even further and issue a carefully measured quantity of dry tea in mugs to the worker who fills the mug with boiling water from a conveniently placed water boiler and returns to the counter for an issue of sugar and milk. Standard measuring equipment is used for the issue of tea, milk and sugar and the inclusive charge is 1½d.

You do not state in your letter the price you charge for the cup of tea served in your canteen, nor do you mention what kind of water boiling equipment you use. Your anxiety regarding labour costs suggests to me that the boiling water supply is not positionally available to the customer and that the canteen attendants have to serve the water.

I am quite sure that the best advice I can offer you is to suggest that you write to The Commissioner, The Tea Bureau, 22, Regent Street, London, S.W.1 and ask if a representative might be sent to your canteen to discuss and examine your problem on the spot. The service is quite free and the experience of the Tea Bureau in this field is without parallel in the country.

Management Bookshelf

That Industry Should Not Stifle

Dust Is Dangerous. By C. N. Davies, D.Sc. (*Faber and Faber Ltd.*, 21s.)

IN a foreword to this book, Sir George Barnett, H.M. Chief Inspector of Factories, stresses that the dangers from dust—danger to health and danger of explosion—are some of the most serious that industry has to face. Dr. Davies, in the six authoritative chapters which make up this volume, fully explains these hazards, tells how to assess dust concentrations and how to eliminate them. Supporting the text are many line drawings and 23 pages of illustrations. To all concerned with industrial hygiene it will be of great value.

The six chapters deal with the following subjects: (1) "Dust Hazards of the Industrial Worker"—recognition, skin and eye injuries, dental erosion, inhalation ricks and cancer; (2) "Dust Sampling"—methods available, sampling orifices, sedimentation samples, deposition of samples, assessment of samples, the strategy of sampling; (3) "Preventive Measures"—substitution, education and general principles, dust suppression, exhaust hoods, separators, ventilation, respirators, prophylaxis; (4) "Radioactive Dusts"—effects of radiation, dust and carcinoma of the lung, detection and handling methods; (5) "House and Non-Industrial Dusts"—occupation exposure to house dust, allergy, constitution of house dust, dust and disease; (6) "Dust Explosion"—explosive dust clouds, methods of ignition, concentration, particle size and other factors, precautions against dust explosion.

On this last the author points out: "The most prolific cause of serious dust explosions has been the accumulation of dust in workplaces. A uniform layer of fine dust only a few hundredths of an inch thick can, if dispersed in the air of a room, form a dangerously explosive cloud. If there is any possibility of a substance causing a dust explosion it is essential that the workrooms should be kept scrupulously clean and free from collections of dust."

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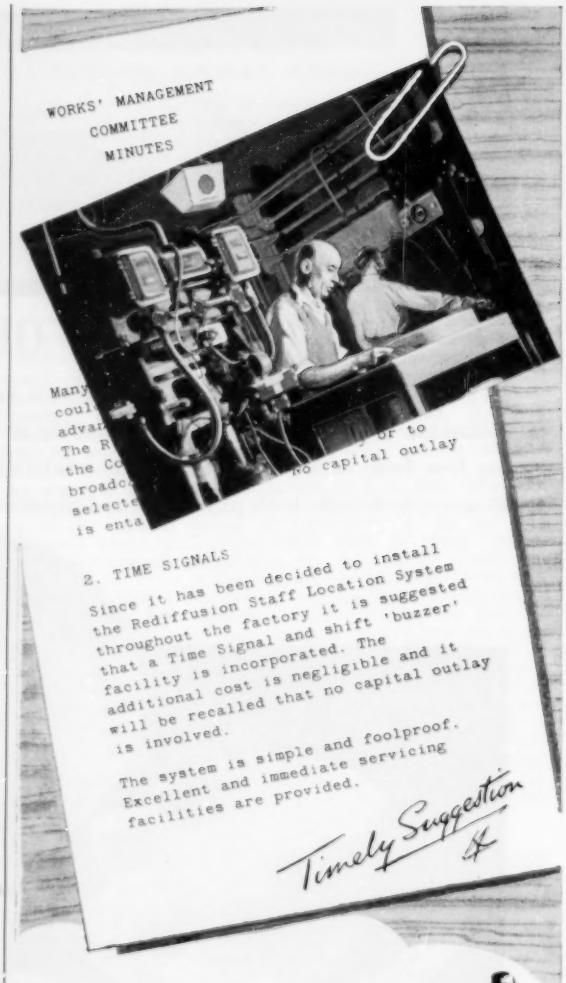
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FLOOR CLEANERS

NOW on the market are two new floor cleaners produced by the same firm for use in factories, canteens, public buildings, etc. The first, a scrubber-polisher (shown here) has a capacity of

Scrubber-polisher.

2½ gallons, a self-sealing, lift-off tank, contra-rotating brushes and a retractable undercarriage for easy transit. It is claimed to scrub closer to skirtings and into corners.

The second model (below) is a suction drier whose main features are a two-way

Suction-drier.

drying action, triple nozzles with concealed squee-gees which are self-adjusting for uneven floors and a rust-proof tank with removable top for complete cleaning. Its capacity is also 2½ gallons. **(PM/880.)**

Readers who wish to know the suppliers of any of the products referred to in this section are asked to write to the Editor, quoting the reference number which appears at the end of the paragraph. We are always glad to consider for publication descriptions — preferably accompanied by an illustration suitable for reproduction — of new products.

'JOINTLESS' FLOORING

A "JOINTLESS" composition flooring has been developed by a British firm from materials and techniques prescribed by the British Standard Code of Practice. For this flooring many advantages are claimed, chief of which is that it combines the hardness of concrete with the resilience and warmth of wood. It is also said to be proof against fire and electric current and, when laid in conjunction with coved-skirting, against all forms of vermin infestation.

The flooring consists of two coats: an underlayer with a minimum thickness of ⅛ inch and a top layer of ¼ inch thick. The thickness of the underlayer is variable especially in the case of old, badly worn wood floors where additional thickness is needed to form a true and level base to receive the top layer.

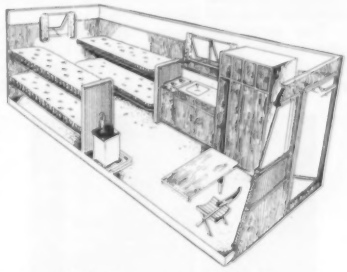
The flooring is available in a good range of colours and can be laid plain or with contrasting borders. Matching strips of ebonite are also used to divide the floor into panels or to simulate the effect of tiles. For routine maintenance the regular application of a good wax polish is the main essential. **(PM/881.)**

Housing

WORKERS' DORMITORY

UP to four men can be accommodated in this dormitory unit, which is specially designed for easy transportation to isolated working sites. Accommodation includes a sink washbasin unit, separate wardrobe for each man and chairs and table. Power and lighting can be provided either from electricity, calor gas or solid fuel. The walls are constructed of hardwood framing which is double sheeted, the interior being finished in clear lacquer varnish. Fibreglass lines the wall cavity and the roof ensuring an even temperature.

Gay in appearance, the dormitories have a homely atmosphere. They are claimed to have a life of 20 years or more, and require no labour for installing on the site, or removal at the end of the contract, as they are taken completely assembled from the trailer or lorry on which they are moved. The roof ventilation operates from the rear to the front through louvres in the gables providing continuous ventilation without the need

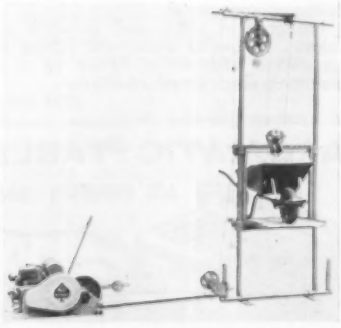


to keep windows open in bad weather. For contracts of long duration a mobile house is available for key workmen or officials. It comprises a bathroom, hot water system, modern kitchen and lounge and two or three bedrooms as required. **(PM/882.)**

Building

HANDY HOIST

THIS new midget platform hoist can be used in conjunction with either a 5 cwt. capacity travelling platform or a 3 cu. ft. concrete skip with headgear and basegear that can be operated and controlled by the midget winch unit. The jib incorporates thrust bearings for



easy slewing action and overwind preventer. The winch/platform hoist is designed to elevate bricks, concrete blocks, lintels and wheelbarrow for 21 ft. landing heights. The concrete skip is stated to be ideally suited for column pouring and shuttering jobs. **(PM/883.)**

PLASTIC PLUMBING

AN end to the damage and inconvenience caused by burst water pipes in winter is said to be foreshadowed by the introduction of a new range of plastic tubing for domestic or industrial plumbing and for all cold liquid conveyance. Available in all standard sizes up to 12 inches, this new piping possesses not only the elasticity to withstand high pressures and the expansion of water into ice, but complete immunity to corrosion by acids, alkalis, salt water and chemical solution. Light, flexible and easy to handle, it enables long runs to be made without jointing at substantially lower material and installation costs.

The new tubing is supplied in two alternative gauges—normal and heavy. Standard screwed and compression joints may be used with the latter, but the

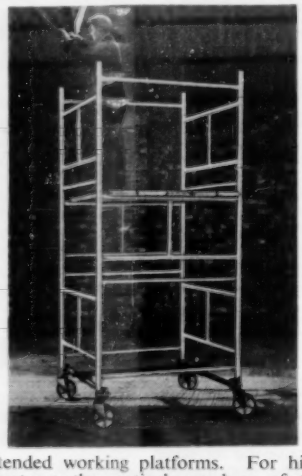
normal gauge cannot be threaded and compression sleeve jointing is, therefore, recommended. Alternatively both gauges can be very easily butt welded by softening the ends near a source of radiant heat and pressing them together. A wide range of applications can be met in agriculture in distributing water to outbuildings, cattle troughs and so on. Mole ploughing has proved a very efficient method of laying the piping, and speeds of over 200 feet per minute are by no means uncommon.

Produced in black—and in white or colours to special order—the tubing is supplied in multiples of 50 feet up to a maximum single length of 500 feet.

(PM/884.)

SIMPLIFIED SCAFFOLDING

SPEEDILY and simply erected, a new system of industrial scaffolding, employing only two standard units and no screws, bolts or other devices, is now being marketed. While suitable for some aspects of constructional scaffolding, it is primarily designed to meet the requirements of maintenance and plant engineers. Used in conjunction with ordinary scaffolding tubes, and no bolt couplers, towers may be bridged to make



extended working platforms. For high structures the vertical members of the frame may be secured to the building with standard size scaffold tubes and fittings in the usual way. By the application of castors, many varieties of mobile structures are easily obtained. Two basic parts are employed by this system. These are a 4 ft. wide frame and the link bar. Easily stacked when not in use, the units can be easily assembled by unskilled labour. (PM/885.)

EASY MIXING

THIS new compact and portable mixer and dryer is suitable for various types of bituminous materials. It has a capacity of up to 5 tons per hour for hot mixes and 10 tons per hour for

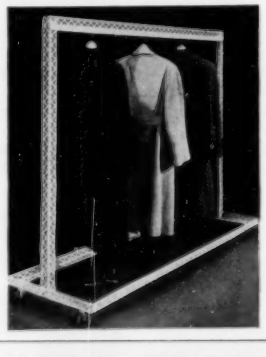
cold mixes. The machine can be towed behind any truck and is ready to operate immediately it arrives at the site.

The *Mixall* exercises complete control over heating and drying, and is said to be able to produce a lower slump concrete than is possible with a conventional concrete mixer. It is particularly useful in cold weather when the aggregate may be frozen. (PM/886.)

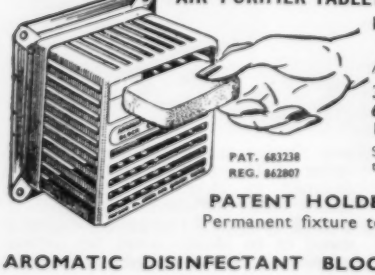
Efficiency Aids

ALL THE ANGLES

THIS new system of slotted angle bar is said to ensure that a bolting position is always available, in other words to eliminate "blind spots". The



AROMATIC TABLETS NEUTRALIZE NOXIOUS ODOURS



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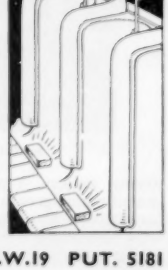

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task of assembly is made easier by the use of a special bolt supplied with the bars which has a small projection under the head to prevent it from turning during tightening.

The bars, moreover, are so adjustable that construction can take place on an uneven base, while the apex of the slot enables oversize bolts ($\frac{3}{8}$ in.) or spindles to be inserted at every inch.

Bars are calibrated in feet with a space of 1 in. between corresponding points in the slots. They are made in two sizes, 2 in. by 2 in. and 3 in. by 2 in. for medium and heavy work. Standard shelves are available in various sizes with a slot in each corner so that they can be bolted to vertical bars at any height desired. **(PM/887.)**

HANDY TRAYS

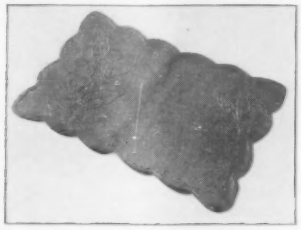
THESE interlocking bench assembly trays, claim the makers, save considerable production costs when small metal parts are being assembled. Each tray interlocks and the front slopes for easy handling. Available either in curved or straight interlockings, the trays are produced in a variety of colours.

The curved version (shown here) is made up of individual trays measuring as follows: length at top 5 inches, width at back $3\frac{3}{4}$ inches, width at front $2\frac{5}{8}$ inches, and depth 2 inches. **(PM/888.)**

Canteen

TABLE MAT

THIS canteen table mat is vacuum-formed in p.v.c. and has a "realistic" natural linen and embroidery finish. It is claimed that it will not stretch or



mark and can be easily cleaned with warm soapy water. Long-wearing, the mat can be bought in blue, green or off-white. **(PM/889.)**

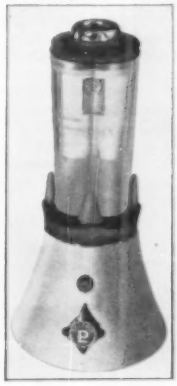
TABLE CLOTHS

A NUMBER of attractive new patterns have now been added to the standard range of a firm making laminated plastics. Particularly useful for canteen tables is a new check pattern—similar to gingham—in pink, blue or green stripes on a white background. A new striped pattern, which has also been introduced, is similar to the check but without the cross lines.

A new raindrop pattern is also available—it gives the effect of spots of rain on a plain coloured background—in a number of colours. **(PM/890.)**

MIXER/BLENDER

AN interesting feature of this food mixer and blender is a "feeder lid" by which the operator can pour liquids



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or powders into the moving cutters without having to remove the lid itself.

The machine has four speeds and is fitted with heat-resisting glass in both goblets and mixing bowls for easy control and cleaning. The finish is in bright chrome.

The mixer will work on either A.C. or D.C. 110/130 volts or 200/240 volts.

(PM/891.)

Public Works

REFUSE COLLECTOR

THIS vehicle has been developed for firms and municipal authorities with refuse disposing problems. It is an 18 cu. yd. ground-loading refuse collector of all-steel construction, said to be of very simple design and foolproof control. The loading line is exceptionally low for this type of vehicle and the provision of a light dust shield and riding step complete a neat, hygienic layout.

The body is mounted on a long wheel base and there is a crew-carrying cab which can seat six. The tipping guides are centrally placed under the ram gear for elevating the body and, whilst the container is suitably reinforced to carry the tipping strains, there is no elaborate and heavy tipping sub-frame beneath the body which is locked to the chassis by slotted guides on which it is mounted.

(PM/892.)

GRIT SPREADER

THE spreading mechanism of this trailer gritter is operated by the road wheels and thus enables it to be towed by any standard lorry, van or tractor. Constructed of steel and designed to withstand rough usage, the machine is

well-balanced and easily handled, and can be used to spread a variety of substances—sand, grit, ashes, salt, etc.

All fast moving parts are mounted on ball races and are totally enclosed in housings lubricated by accessible grease nipples for quick and easy maintenance.

The effective width of spread may be varied from 4 to 40 ft. The trailer is fitted with brakes, twin rear lights and reflectors to comply with the latest Ministry of Transport regulations. **(PM/893.)**

New Film Strips

A NEW series of sound filmstrips, called PEOPLE AND PRODUCTION, has been issued by the Industrial Welfare Society. Each filmstrip deals with a human relations problem, and is so designed as to stimulate discussion and ideas among those who see it.

(A) **The Executive Who Wasn't**—A study of the overworked executive and his need to plan, to delegate, to relax—in fact to be efficient.

(B) **Work and Welfare**—Puts the problem of a firm which provides generous amenities for its workers without corresponding increases in output.

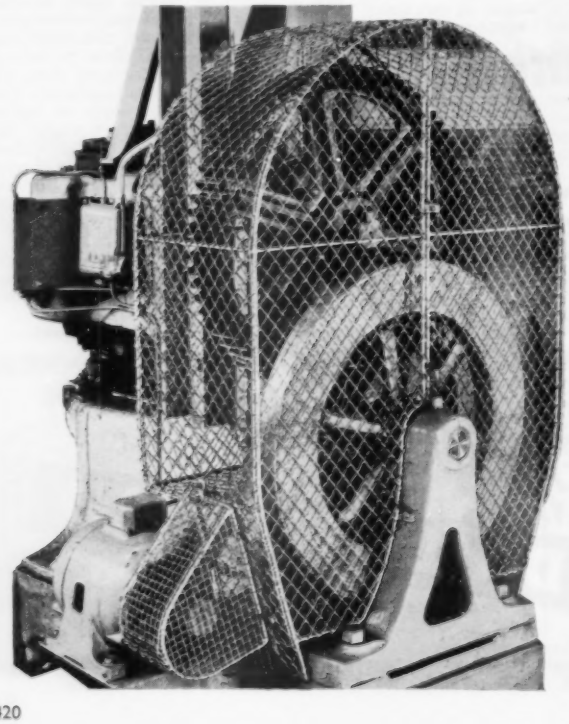
(C) **The Higher The Fewer**—How the highly placed executive is in danger of losing touch with his workers and even perhaps with his own position relative to the whole industrial unit.

(D) **Papers and People**—Bureaucracy in the firm destroys the workers' sense of "mattering".

(E) **Technical Hitches**—The relations between technicians and the administration are strengthened by better understanding of each other's rôle.

(F) **Tool Room Trouble**—Craftsmen's reactions to replanning analysed. How to put across new ideas on organisation without harming morale.

(G) **Stick in the Mud**—Resistance to new ideas—in the home and at the works. A striking parallel.



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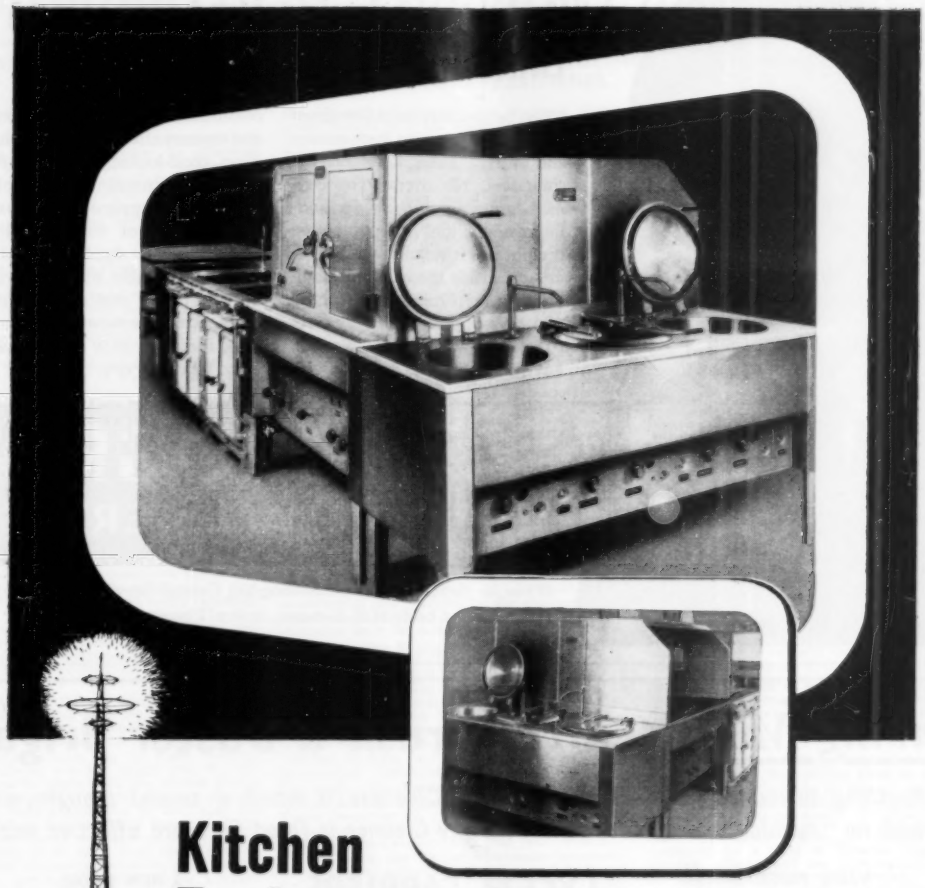

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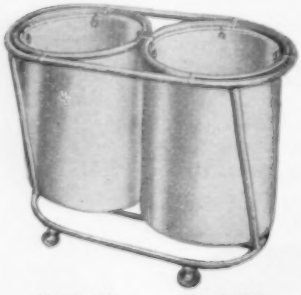

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Summary of Official Publications

READERS' GUIDE TO ACTS, STATUTORY ORDERS, NEW RULINGS AND AWARDS CONCERNING INDUSTRY AND PERSONNEL

INDUSTRIAL COURT AWARDS

No. 2547. Regional Hospital Boards—Works Group Staffs Salaries. Reference: To determine a difference between the Staff and Management Sides of the Professional and Technical Council "B" of the Whitley Councils for the Health Services on increases in the current salary scales. **Award:** The Tribunal find for certain specified increases. (29/11/54.)

No. 2548. Railway Shopmen. Reference: To determine the claim o. the Employees' Side of the Railway Shopmen's National Council that, under the provisions of the Court's Award No. 2509, leave with pay in lieu shall be granted to railway workshop staff when required to work on a Bank or public holiday covered by that decision. **Award:** The earlier decision defines only the number of additional days of Bank and public holidays in respect of which leave shall be given with pay, and is entirely without prejudice to any question as to whether days in lieu with pay additional to the two which were already provided for prior to the issue of Award No. 2509, should be given. The decision was not, and was not intended to be directed to this matter. (14/12/54.)

No. 2549. Road Haulage Wages Act 1938, Part II. Reference: Dispute on remuneration paid by a Lincolnshire firm to certain road haulage workers. **Award:** The Tribunal find that payments by the firm were unfair and rule that: (*a*) (i) Drivers of vehicles of carrying capacity of over five tons, but not more than eight tons shall receive 132s. per week of 44 hours excluding mealtimes; (ii) drivers of vehicles of capacity between eight and 12 tons shall receive 136s. per week of 44 hours excluding meal times; (*b*) nightwork, overtime, Sunday work, customary holidays, annual holidays and accrued holiday remuneration shall be paid for in accordance with the provisions of Road Haulage Wages Council Orders current on October 1, 1954. (20/12/54.)

No. 2550. London Meat Carriers (Transport Drivers)—Claim for Payments for Night Working, and for increased rate of subsistence allowance. Reference: To determine (*a*) whether, in an emergency change from day to night working where the employee is a day worker who has not been designated for night work, the worker should receive 1s. per hour night rate for all hours of night duty worked, with a minimum of 44s. plus the deemed period of duty of eight hours; and (*b*) whether, in the case of an employee's rest period occurring whilst he is away from home base, a 15s. subsistence allowance should be paid instead of 13s. 6d. as laid down in R.H. 50 for workers covered by the Orders of the Road Haulage Wages Council. **Award:** (*a*) Where in the course of any normal working week a single case of "emergency" arises, not involving more than one tour of duty and necessitating night work for which no "designated" night worker is available, any worker appointed to cover such "emergency" shall be paid for a "deemed day" plus 16s., in addition to his daily basic rate and any normal overtime payment; and (*b*) where in the course of a normal working week two or more "emergencies", or a single "emergency" involving two or more tours of duty, arise, necessitating night work for which no "designated" night worker is available, any worker or workers appointed to cover such "emergencies" shall be deemed to be "designated" workers and shall, during the week in question, be remunerated as such in accordance with the current agreement. The Court find against the claim for an increase in the existing rate of subsistence allowance. (23/12/54.)

STATUTORY INSTRUMENTS

No. 1617. The Paper Bag Wages Council (Great Britain) Wages Regulation (Amendment) Order, 1954. Dated December 6, 1954, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945 (a). *H.M.S.O.* 3d. (Amends Order P.56 by increasing the statutory minimum remuneration fixed by that order.) Operative from December 22, 1954.

No. 1643. The Flax and Hemp Wages Council (Great Britain) Wages Regulation (Amendment) Order, 1954. Dated December 10, 1954, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945 (a). *H.M.S.O.* 4d. (Amends Order F.H. 76 by increasing the statutory minimum remuneration fixed by that Order.) Operative from December 27 1954.

No. 1655. The Keg and Drum Wages Council (Great Britain) Wages Regulation (Amendment) Order 1954. Dated December 13, 1954, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945 (a). *H.M.S.O.* 2d. (Amends Order K.D. 48 by increasing the statutory minimum remuneration fixed by that order.) Operative from December 31 1954.

No. 1656. The Rope, Twine and Net Wages Council (Great Britain) Wages Regulation (Holidays) (Amendment) Order, 1954. Dated December 13, 1954, made by the Minister of Labou. and National Service under Section 10 of the W es Councils Act, 1945 (a). *H.M.S.O.* 3d. (Amends Order R 105 by providing for additional payments to be made to workers when a customary holiday falls on a Saturday.) Operative from December 31, 1954.

No. 1663. The Firemen's Pensions cheme (No. 2) Order, 1954. Dated December 13 1954, made by the Home Secretary under Section 26 of the Fire Services Act, 1947 (a), as subsequently amended. *H.M.S.O.* 3d. (Amends the Firemen's Pension Scheme, 1952. Article 1 provides for the creating, for the purposes of the Scheme, of certain temporary employment in connection with the provision of fire services, as if it were employment as a member of a fire brigade. Articles 2 and 3 make amendments consequential on the changes in the nomenclature of fire brigade ranks in Scotland.) Operative from December 23, 1954.

No. 1684. The Baking Wages Council (Scotland) Wages Regulation (Amendment) Order, 1954. Dated December 17, 1954, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945 (a). *H.M.S.O.* 4d. (Amends Order BKS 29 by increasing the statutory minimum remuneration fixed by that Order, varying also the definition of the expression "normal working day" in relation to the overtime provisions.) Operative from January 7, 1955.

No. 1685. The Fustian Cutting Wages Council (Great Britain) Wages Regulation Order, 1954. Dated December 17, 1954, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945 (a). *H.M.S.O.* 3d. (Sets out the statutory minimum remuneration payable in substitution for that fixed by Order F.C. 30, which is revoked.) Operative from January 7, 1955.

No. 1676. The General Waste Materials Reclamation Wages Council (Great Britain) Wages Regulation Order, 1954. Dated December 20, 1954, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945 (a). *H.M.S.O.* 4d. (Sets out the statutory minimum remuneration payable in substitution for that fixed by Orders DB. 42 and 44, which are revoked.) Operative from January 12, 1955.

INDUSTRIAL DISPUTES TRIBUNAL AWARDS

No. 646. Remuneration of Certain Foremen and Chargehands Employed by the London Workshop of the Royal School for the Blind. Claim: That certain foremen and chargehands should be paid graded salary scales comparable with those laid down by the National Joint Council for Local Authorities' Administrative, Professional, Technical and Clerical Services for specified classes of officers. **Award:** The Tribunal find for certain specified increases. (1/12/54.)

No. 647. Rates of Wages of Workers Employed in the Coal Distributive Trade. Claim: For an increase in wage rates of 7s. per week. **Award:** That the rates of the workers concerned shall be increased by 3s. per week for adults and by proportionate amounts for juveniles; workers engaged in loading and/or delivering coal (or fuel of similar bulk) in sacks or bags shall receive an additional increase at the rate of 4s. per week. (2/12/54.)

No. 648. Rates of Wages of Technical and Supervisory Grades Employed in the Film Production Industry. Claim: For a substantial increase in the wage rates of technical and supervisory grades whose existing wage does not exceed £40 per week. **Award:** That the minimum rates of wages of those workers covered by Schedules A, C, H, I and J of the agreement dated November 10, 1952, between the two sides of the Joint Industrial Council for the Film Production Industry whose weekly minimum wage does not exceed £25 18s. 4d. shall be increased by 11s. per week. (6/12/54.)

No. 649. Manning of Diesel-Engined Tugboats on the River Tyne. Claim: That the crew of diesel-engined tugs operating on the River Tyne be four men and one apprentice. **Award:** That the crews of diesel-engined tugs of 700 b.h.p. and over shall be five men and one boy. (6/12/54.)

No. 650. Rates of Wages and Conditions of Employment of Certain Motor Coach Drivers Employed in the West of Scotland. Claim: Dispute arises out of the introduction by the employers of new rates of pay and conditions of employment. **Award:** The Tribunal rule that the terms and conditions of employment to be applied shall be those set out in the agreement dated March 11, 1954, between the five companies subsidiary to the Western Engineering and Motor Services Ltd., and the Transport and General Workers' Union. (10/12/54.)

No. 651. Payment for Overtime Worked by Engineering Workers Employed by a Firm of Pin Manufacturers in Gloucestershire. Claim: For the application of a specified agreement covering the payment of overtime working in the engineering industry. **Award:** That the workers concerned shall receive payment for overtime in accordance with the Engineering and Allied Employers' National Federation and the Trade Unions concerned, dated July 23, 1943. (14/12/54.)

No. 652. Grading of an Officer Employed by the Newcastle Regional Hospital Board. Claim: Regarding the grading which should apply to a particular post. **Award:** Claim not established. (14/12/54.)

No. 653. Rates of Wages of Certain Ratefixers Employed by a Shipbuilding Firm at Clydebank. Claim: For an increase in wages. **Award:** That the wages for the workers concerned shall be increased by 10s. per week. (14/12/54.)

No. 654. Remuneration of Certain Workers Employed by a Firm of Vitreous Enamellers in London. Claim: For the implementation in full of a specified agreement. **Award:** That the company shall pay to the workers concerned the increases in wages provided under the agreement dated April 13, 1954, between the Engineering and Allied Employers' National Federation and the Confederation of Shipbuilding and Engineering Unions, namely, 8s. 6d. per week for skilled workers, 7s. 6d. per week for intermediate grades of workers and 6s. 6d. per week for unskilled workers, these increases to be taken into account

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for the purpose of computing holiday credits and overtime payment. (16/12/54.)

No. 655. Wages of Apprentice Draughtsmen Employed by an Engineering Firm at Stockton-on-Tees. Claim: The dispute arises out of a claim for the payment to their apprentice draughtsmen of the increases provided for such workers under a specified agreement in the engineering industry. **Award**: The tribunal finds for the following increases: 2s. 4d. per week at 16 years of age, 2s. 8d. at 17, 3s. 10d. at 18, 4s. 6d. at 19 and 5s. 4d. at 20. This award shall have effect as from the first full pay period following July 5, 1954. (17/12/54.)

No. 656. "On Call" Duty Payments in Respect of a Certain Worker Employed at the Richard Murray Hospital, Consett, County Durham. Claim: For the continued payment of "on call" duty payments to a particular worker in accordance with an agreement entered into by him on December 9, 1950. **Award**: Claim established, although the Tribunal find that the worker concerned has already received such payments as have been due under the terms of the aforesaid agreement. (20/12/54.)

No. 657. Rates of Wages of Certain Workers Employed by a Firm of Manufacturing Confectioners at Warrington. Claim: For the payment of increased wages as from the date provided under a specified agreement. **Award**: Claim not established. (21/12/54.)

No. 658. Annual Holidays in the Jute Carpet Industry. Claim: That annual holidays should be increased from 14 to 15 days per year and that payment for holidays should be at the rate of 6 per cent of gross earnings instead of 5¼ per cent. **Award**: Claim not established. (24/12/54.)

No. 659. Remuneration of the Farm Manager at St. Luke's Hospital, Middlesbrough. Claim: That the post of the worker concerned should have been placed in Grade 2 under a specified agreement. **Award**: Claim established. (29/12/54.)

No. 660. Rates of Wages of Workers Employed on Constructional Steelwork, Steel Plate and Water Tube Boiler Erection. Claim: For increased wages. Award: Claim not established. (3/1/55.)

GENERAL

Civil Service Arbitration Tribunal Award No. 270. Claim: That consolidated salary scale (London, male) shall apply to Wireless Technicians employed in the Home Office. **Award**: That the salary scale applicable shall be £430 (at 25) rising to £540, with deductions of £20 for each year below the age of 25. (20/12/54.)

Civil Service Arbitration Tribunal Award No. 271. Claim: That the rates of pay for Mechanics B, Garage Assistants and Labourers (M.T.) shall be increased with retrospective effect. **Award**: (*a*) Mechanics B shall receive 144s.—152s. per week in London, and 139s. 6d.—147s. 6d. in the provinces; Garage Assistants, 140s. in London and 135s. 6d. in the provinces; Labourers (M.T.), 133s. 6d. and 129s. 6d. in the provinces. (30/12/54.)

February Diary for Management

BRITISH INSTITUTE OF MANAGEMENT
4-5 **Droitwich.** Two-day Conference for Senior Executives on "Planning in Higher Management."

BURTON MANOR
13-25 Two-weeks' course (No. 556) on "The Art of Communication".
27-March 11. Two-weeks' course (No. 545) on "Supervisory Management".

INDUSTRIAL WELFARE SOCIETY
1 **London.** Day Course on "Present Education System and its Effect on Recruitment".
1 **Manchester.** New Filmstrip Meeting.
3 **London.** Luncheon.
8 **Newcastle.** "Men and Women Supervisors".
9 **London.** Canteens Meeting.
10 **London.** For Women Supervisors.
10 **Birmingham.** New Filmstrip Meeting.
15-17 **London.** Industrial and Factory Law.
16 **Manchester.** Canteens Evening Meeting.
17 **Liverpool.** Canteens Course.
18-21 **Ashridge, Berkhamsted.** Residential Course for Foremen and Forewomen.
24 **London.** Industrial Editors (Welfare). Group.

INSTITUTE OF INDUSTRIAL SUPERVISORS
3 **Rotherham.** Annual General Meeting.
4-6 **Ashorne Hill.** "Industrial Relations, Industrial Law—What the Supervisor Should Know".
7 **Paisley.** "Accident Prevention in the Factory".
9 **Coatbridge.** "Management and Supervision".
9 **Warrington.** "Developments in Personnel Selection".
10 **Cheltenham.** "The Foreman and the Factory Acts".
10 **Smethwick.** "Incentives in Industry".
17 **Portsmouth.** Symposium: "The Trade Unions in a Changing Industry".
18-20 **Ashorne Hill.** "The Foreman and Cost Reduction".
25-27 **Buxton.** "The Practice of Supervisory Management".
26-28 **Missenden Abbey, Bucks.** "Human Relations, Communication and Discipline".

INSTITUTE OF INDUSTRIAL TECHNICIANS
16 **Manchester.** "Work Study and Industrial Productivity".

INSTITUTE OF PERSONNEL MANAGEMENT
3-5 **London.** Three-day Study Course on "The Use of Statistics in Personnel Management."

INSTITUTE OF WELFARE OFFICERS
25 **London.** "Welfare as a Profession".

NATIONAL INSTITUTE OF INDUSTRIAL PSYCHOLOGY
7-11 **London.** Course in Selection Methods, Part II.
18 **London.** One-day Conference for Directors and Senior Executives.
28-March 4. **London.** Course for Managers, Part II.

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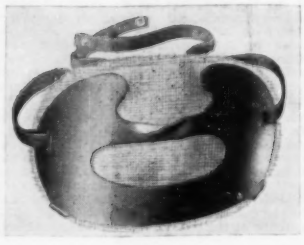

HOW VAUXHALL RUNS ITS C.D. CORPS (Continued from page 407)

in lectures on rescue training and 2 doctors and 6 lay instructors in first aid instruction. From time-to-time, lectures are given by departmental heads on specific hazards which might arise as the result of a raid on the factory, and so far papers have been delivered by the company's safety engineer, building surveyor, the electrical engineer, the fire officer, the machine maintenance engineer and the sanitary engineer.

Much use is also made of films, filmstrips and slides, and Mr. Wellings has built up a large library of them. But only films are bought which have been revised since the last war, having regard to subsequent nuclear weapon developments. Special film shows and lectures by outside speakers of note have also been held.

The members of the units have participated in their own exercises and in those run by the local authority. A large part was played in the experimental rescue mobile column exercise "Askey" held in May, 1954, when eighty members turned up at 12.30 p.m. on a Sunday and spent the whole afternoon on the exercise, some having already assisted voluntarily in evening preparations during the previous week.

Payment is made to volunteers for the time which they devote to civil defence on the basis of 10s. 6d. an hour for instructors, and 3s. an hour for others. A class attendance record is kept by the instructor giving details of the men and women attending, the day, time and place of attendance and the subjects taken. In addition, a separate claims form is rendered in triplicate by the instructor—one copy to accounts in respect of hourly-paid employees, a second for staff paymaster with regard to staff members and the third for reference.

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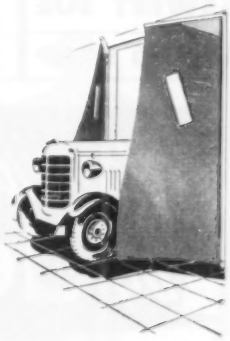

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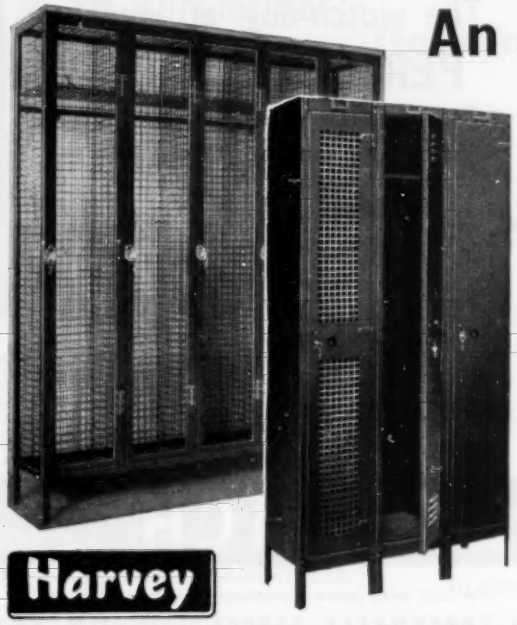

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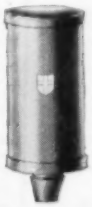

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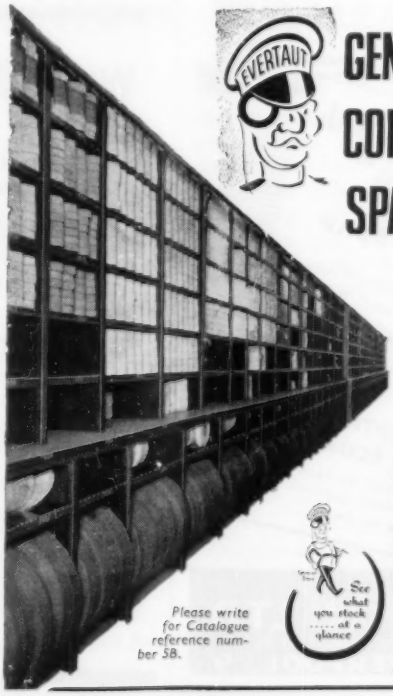

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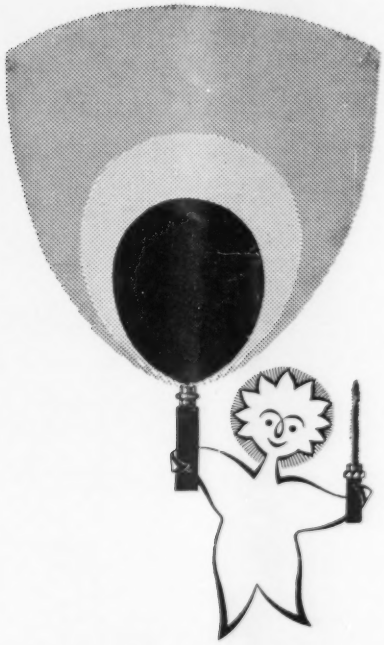

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